Avid® Interplay®
Best Practices Guide

Version 3.0

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Using This Guide

Congratulations on your purchase of Avid® Interplay®, a powerful system for managing media in a shared storage environment. This guide contains an overview of Avid Interplay and also contains task-oriented instructions, conceptual information, and reference material you need to use your Avid Interplay system. This guide is intended for all Interplay users, from beginning to advanced

📧 *The documentation describes the features and hardware of all models. Therefore, your system might not contain certain features and hardware that are covered in the documentation.*

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
📧	A note provides important related information, reminders, recommendations, and strong suggestions.
⚠	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
⚡	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▸	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
(Windows), (Windows only), (Macintosh), or (Macintosh only)	This text indicates that the information applies only to the specified operating system, either Windows or Macintosh OS X.
Bold font	Bold font is primarily used intask instructions to identify user interface items and keyboard sequences.

Symbol or Convention	Meaning or Action
Italic font	Italic font is used to emphasize certain words and to indicate variables.
`Courier Bold font`	Courier Bold font identifies text that you type.
Ctrl+key or mouse action	Press and hold the first key while you press the last key or perform the mouse action. For example, Command+Option+C or Ctrl+drag.

If You Need Help

If you are having trouble using your Avid product:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.

2. Check the latest information that might have become available after the documentation was published:

   - If the latest information for your Avid product is provided as printed release notes, they are shipped with your application and are also available online.

   - If the latest information for your Avid product is provided as a ReadMe file, it is supplied on your Avid installation media as a PDF document (README_*product*.pdf) and is also available online.

   You should always check online for the most up-to-date release notes or ReadMe because the online version is updated whenever new information becomes available. To view these online versions, select ReadMe from the Help menu, or visit the Knowledge Base at www.avid.com/support.

3. Check the documentation that came with your Avid application or your hardware for maintenance or hardware-related issues.

4. Visit the online Knowledge Base at www.avid.com/support. Online services are available 24 hours per day, 7 days per week. Search this online Knowledge Base to find answers, to view error messages, to access troubleshooting tips, to download updates, and to read or join online message-board discussions.

Viewing Help and Documentation on the Interplay Portal

You can quickly access the Interplay Help, PDF versions of the Interplay guides, and useful external links by viewing the Interplay User Information Center on the Interplay Portal. The Interplay Portal is a web site that runs on the Interplay Engine.

You can access the Interplay User Information Center through a browser from any system in the Interplay environment. You can also access it through the Help menu in Interplay Access and the Interplay Administrator.

The Interplay Help combines information from all Interplay guides in one Help system. It includes a combined index and a full-featured search. From the Interplay Portal, you can run the Help in a browser or download a compiled (.chm) version for use on other systems, such as a laptop.

To open the Interplay User Information Center through a browser:

1. Type the following line in a web browser:

   ```
   http://Interplay_Engine_name
   ```

   For *Interplay_Engine_name* substitute the name of the computer running the Interplay Engine software. For example, the following line opens the portal web page on a system named docwg:

   ```
   http://docwg
   ```

2. Click the "Avid Interplay Documentation" link to access the User Information Center web page.

To open the Interplay User Information Center from Interplay Access or the Interplay Administrator:

▶ Select Help > Documentation Website on Server.

Interplay Documentation

The following documents describe how to use Avid Interplay:

• *Avid Interplay Best Practices* — provides an overview of the major Interplay components, shows sample configuration diagrams, and describes several of the key features, such as setting up a user database and using the Avid Interplay Archive Engine.

• *Avid Interplay Software Installation and Configuration Guide* — describes how to use the Avid Interplay installation programs to install and configure software on the various systems that make up a Interplay environment.

• *Avid Interplay Engine Failover Guide* — describes how to set up a cluster configuration for the Avid Interplay Engine and the Avid Interplay Archive engine. There are two versions of this guide: one for SR2500 systems and one for AS3000 systems.

• *Avid Interplay Engine and Avid Interplay Archive Engine Administration Guide* — describes how to administer your Avid Interplay Engine or Avid Interplay Archive Engine and Avid Interplay database.

- *Avid Interplay Access User's Guide* — describes how to use Interplay Access to browse, search, and work with assets in the Avid Interplay database.

- *Avid Interplay Assist User's Guide* — describes how to use Interplay Assist for logging, archiving, and sending to Playback material in an Interplay environment.

- *Avid Instinct User's Guide* — describes how to use the Avid Instinct application to write iNEWS stories and put together simple audio and video sequences.

- *Avid Interplay Media Services Setup and User's Guide* — Avid Interplay Media Services lets you control and automate Transcode, Archive, and other Interplay Media Services.

- *Avid Interplay Transfer Setup and User's Guide* — describes how to use Interplay Transfer to transfer media to and from another workgroup, send finished sequences to a configured playback device, ingest media from a configured ingest device, and perform standalone transfers between workstations.

- *Avid Service Framework User's Guide* — describes how to use the logging, monitoring, and management features of the Avid Service Framework applications.

- *Avid Interplay Capture User's Guide* — describes how to use Interplay Capture, a newsroom ingest tool that enables automated recordings.

- *Avid Interplay Capture Administrator's Guide* — describes administrative concepts, tasks, and reference material for Avid Interplay Capture.

All documents are available in PDF form on the Avid Knowledge Base at www.avid.com/onlinesupport.

Avid Training Services

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1 Avid Interplay Components

This chapter provides a brief overview of the main components that make up an Avid Interplay environment.

- Using MultiRez and Dynamic Relink
- Avid Interplay Engine
- Avid Interplay Access
- Avid Interplay Administrator
- Interplay Window
- Avid Interplay Transfer
- Avid Instinct
- Avid Interplay Media Services Providers
- Avid Interplay Assist
- iNews and Avid Instinct
- Archive and Restore Services
- MediaManager to Avid Interplay Migration Tool
- Avid Interplay Media Indexer
- Service Framework Services
- Interplay Capture
- Access Control and Media Deletion Model
- Interplay Application Icons

Using MultiRez and Dynamic Relink

MultiRez (a term derived from "multiple resolutions") allows you to associate a single master clip with multiple media files of different resolutions. For example, you can associate the same master clip with low-resolution MPEG-2, JFIF 15:1s, and uncompressed media files. MultiRez also works with audio files: you can associate an audio clip with more than one sample rate.

In an Avid Interplay environment, you can capture a master clip in multiple resolutions or transcode a clip to another resolution, and you can easily switch between the different resolutions. This switching is referred to as *dynamic relink*. Dynamic relink is useful when you want to work with low-resolution media and create your final master in high-resolution media. For more information, see "Using MultiRez and Dynamic Relink" in the following documents:

- *Avid Media Composer Editing Guide*
- *Avid Symphony Editing Guide*
- *Avid NewsCutter Editing Guide*

This information is also included in the Help for these products or the Interplay Help.For additional information, see .

Avid Interplay Engine

The Avid Interplay Engine forms the backbone of the Interplay environment. The Interplay Engine is a server that combines an asset database with workflow management software, both of which are integrated with Avid shared storage and Avid archive solutions. This topic provides basic information about the functions and components of the Interplay Engine.

The Avid Interplay Engine provides the following features:

- Management of *Avid asset*s (for example, master clips and sequences) as well as *file assets* (for example, Adobe Photoshop® and Microsoft® Office files)
- Version control for sequences and file assets
- Integration with Avid ISIS™
- Support for MultiRez (multiple resolution) workflows
- Access control through groups as follows:
    - Five fixed user roles: Administrator, Read/Write/Delete, Read/Write, Read, and No Access
    - A user can be part of several groups

- Permissions can be modified at the folder level

• Import on the desktop level to Avid Interplay Access

• Use the Interplay Window to check in and check out to the database from the Avid editing application

• Support for MXF media files and AAF metadata. Interplay v3.0 adds support for AMA media.

• Failover capability (using Windows® 2003 Enterprise Server), including Auto-Failover to hot spare (Avid Interplay Engine and Avid Interplay Archive Engine only)

• Simplified workgroup delete rules including the following:

- The administrator can specify the delete permissions that users and groups have on particular folders. You use Reservations to protect the media files related to Avid assets.

- Media can be protected by reservations that have time and date expirations

- Reservations protect assets and media placed in a protected folder

- You can use the Avid Interplay Access software to place personal reservations on folders

For information on the Avid Interplay Engine, see *Avid Interplay Engine and Avid Archive Engine Administration Guide* and the *Avid Interplay Access User's Guide.*

Avid Interplay Access

The Avid Interplay Access software is a dedicated application that can be used by system administrators and other designated users such as editors, assistants, and producers to interact with the Avid Interplay Engine.

The Avid Interplay Access user interface allows you to quickly search or browse its contents for assets of interest. Drag-and-drop support allows you to obtain Avid assets by dragging them to the Avid editing applications Interplay Window.

Avid Interplay Access provides search tools and an Object Inspector that allow anyone from artists to editors to easily find shots, clips, sequences, or other elements defined for the project without even knowing file names, and to quickly see the dependencies and relatives involved. You can also use Avid Interplay Access to manage sequences and other Avid assets whose media is no longer online. You can then search for these assets, view information about them such as the source tape name, obtain the source footage, and recapture it.

The following illustration shows Avid Interplay Access.
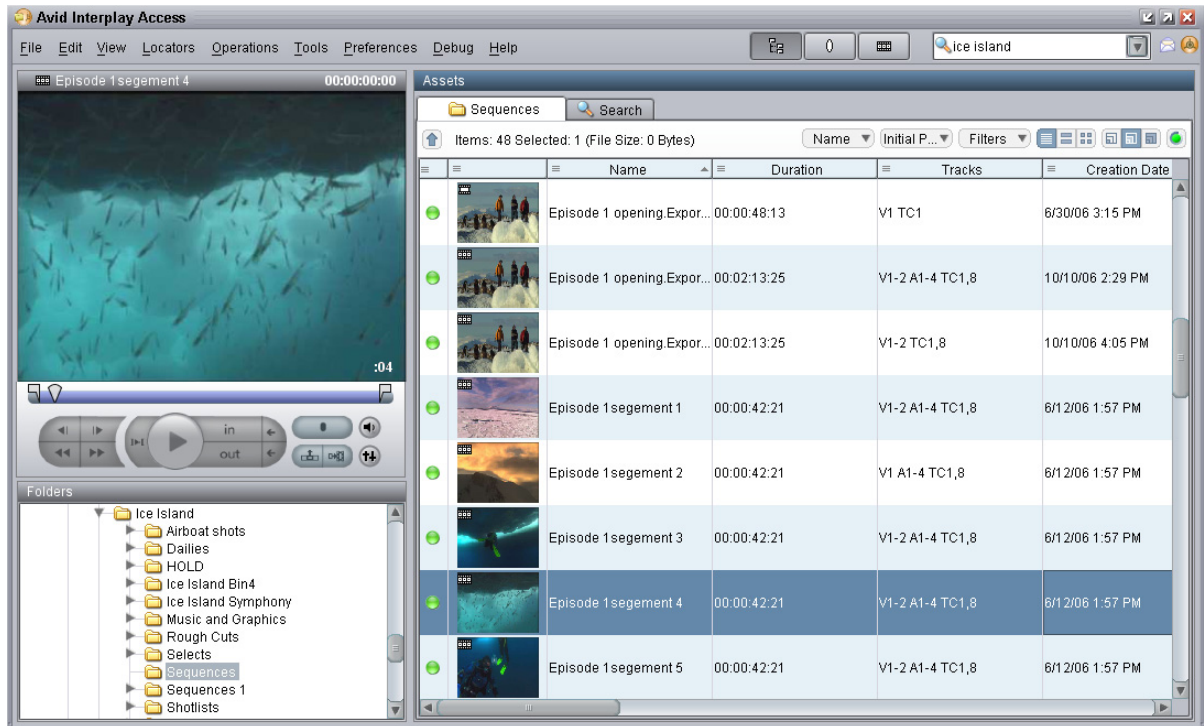
You can play Avid video and audio clips in the Interplay Access Monitor if the clips are associated with MPEG-4/H.263 or H.264 video media, MPEG1 Layer 2 audio media, or both.

For more information about Avid Interplay Access, see the *Avid Interplay Access User's Guide.*

Avid Interplay Administrator

The Interplay Administrator is a cross-platform application used for basic administration of the Avid Interplay Engine and the Avid Interplay Archive Engine. Supported capabilities include the following:

• Database activation, creation, and security

• Scheduling backups

• Server licensing configuration

• Central configuration server setup of users

The following illustration shows the User Management window of the Avid Interplay Administrator application.
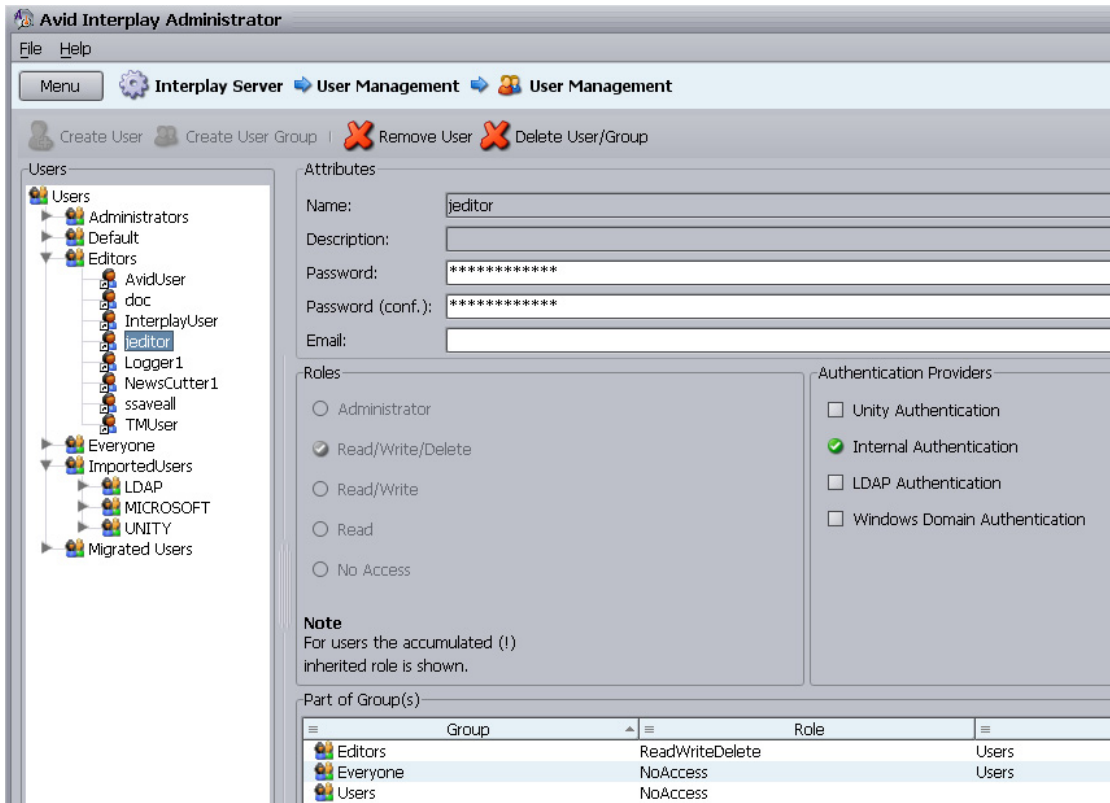
For information on using the Interplay Administrator, see the *Avid Interplay Engine and Avid Archive Engine Administration Guide*. For information on setting up a user database, see "Setting Up a Folder Structure in Interplay Access" on page 35.

Interplay Window

The Interplay window allow you to share Avid assets with other users in the Avid Interplay environment. The Interplay window provide the following capabilities:

• Avid editing applications such as Avid NewsCutter®, Avid NewsCutter XP, Avid Media Composer®, and Avid Symphony™ can work with Avid assets through the Avid Interplay window. The Avid Interplay window displays the same folder structure you see in

the Avid Interplay Access interface. You can capture material to an Avid Interplay window and edit those clips into a sequence in a bin. You can also check sequences into the Avid Interplay window for asset management and for sharing with other editors.

•   Avid Instinct and Avid Assist allow you to access remote assets directly. The interface is similar to the Avid Interplay window. For example, an Instinct journalist can work with remote assets without copying the files locally and without having to check the files in and out of the Interplay Engine. The interface provides quick access to story information. You can work on and finish your stories without having to copy files to your local system.

Key features of the Interplay Window include the following:

•   Capture (digitize) directly into an Avid Interplay window

•   Save current state and restore on relaunch

•   Drag from editing application bins to the Avid Interplay window and vice versa

•   Edit remote clips directly into a sequence

•   Search the Avid Interplay database

•   Create shortcuts

Avid editors must edit sequences, render, and consolidate in bins.

The following illustration shows the Interplay Window within an Avid editing application.

For more information, see "Working with Avid Interplay from an Avid Editing System" in the Interplay Help, the Help for your Avid editing application or one of the following guides:.

- *Avid Media Composer Editing Guide*

- *Avid Symphony Editing Guide*

- *Avid NewsCutter Editing Guide*

Avid Interplay Transfer

Avid Interplay Transfer lets you transfer Avid assets to and from another workgroup, send finished sequences to a configured playback device, and capture media from a configured ingest device. You can also use Interplay Transfer in a standalone environment (an environment other than Avid shared storage) to move Avid assets between workstations.

The Avid Interplay Transfer Engine and client software operates as TransferManager does in a MediaManager environment. In addition, it supports the following features:

• You can perform MediaManager-to-Avid Interplay transfers from a MediaManager browser to a an Avid Interplay Transfer Status window or to a bin in an Avid Editing application within your Avid Interplay environment.

• Standalone Interplay Transfer support is provided in the Avid editing applications.

• Support for a Transfer Cache Engine that can monitor transfers for a large number of users. This removes the task of reporting transfer status from the Interplay Transfer Engine.

The following illustration shows the Interplay Transfer Status window viewed from the Avid Interplay Administrator.

For information on Interplay Transfer, see the *Avid Interplay Transfer Setup and User's Guide*.

📑 *Avid Interplay-to-OMF transfers are not supported.*

Avid Instinct

Avid Instinct™ is a story creation tool that introduces a story line designed to support the way that journalists create a story. Avid Instinct, an iNEWS client, is a script-based application that is tightly integrated with iNEWS. It uses iNEWS metadata for the story that is being written.

Instinct supports a subset of the Avid editing features, including the following:

- Recording voice-over to the story line

- Simple searches

- Edit while capture

- Send to Playback

Instinct also incorporates the following new features that support the Avid Interplay environment:

- Support for MultiRez workflow

- Access to iNEWS stories and Avid Interplay Window assets eliminates the need to copy media and story information to a local system

- Integrated asset management, providing search, query, and organization capabilities with the Interplay Window.

For more information, see the *Avid Instinct User's Guide.*

Avid Interplay Media Services Providers

The Avid Interplay Media Services application supports the following types of transcode services:

- Avid Interplay Transcode allows you to transcode clips from one Avid-supported resolution to another. For example, you can create a low-resolution version of a sequence or master clip. You can perform transcode operations from within the Avid editing application or from within Avid Interplay Access.

- Avid Interplay ProEncode™ services use third party software for non-Avid format transcode operations. For example, you can transcode from an Avid resolution to Windows Media File format.

- The Copy service allows you to copy media and metadata between different Interplay Workgroups.

- The Move service allows you to move media and metadata between different workspaces on the same Avid ISIS system.

- The STP Encode service allows you off load time-consuming processing involved in exporting and transferring of Long GOP OP1a media, during a send-to-playback request from the Avid editing application or Avid Interplay Assist. See "Workflow for Background Processing of Long GOP Splicing and Transferring of Long GOP OP1a Media" on page 143.

For more information, see the *Avid Interplay Media Services Setup and User's Guide.* For hardware configuration information, see the *Interplay Software Installation and Configuration Guide*.

Avid Interplay Assist

Avid Interplay Assist allows you to perform the following tasks:

- Search the Avid Interplay Engine database

- Play media

- Add locators and locator information

- Select, view, and create shotlists

- Send to playback

- Archive

The following illustration shows Avid Interplay Assist.
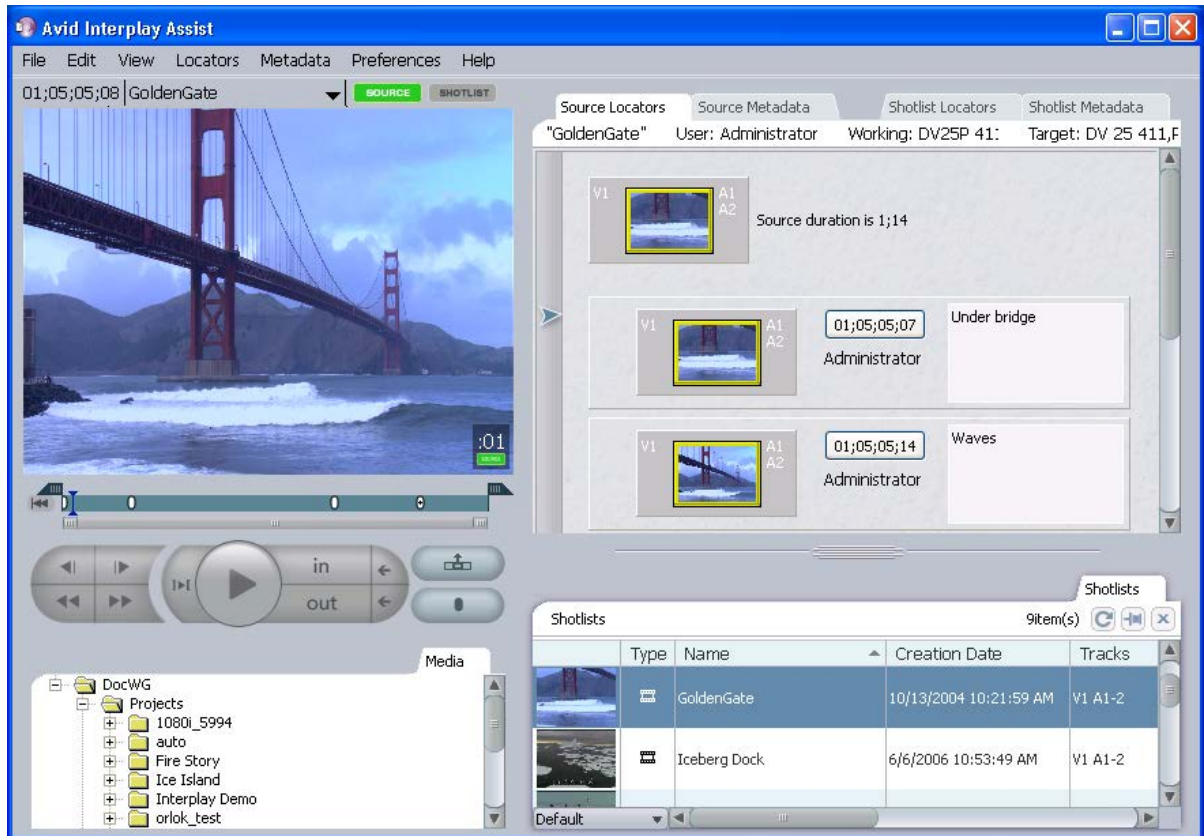
You can also use Avid Interplay Assist to quickly preview clips. All resolutions supported by the Avid editing applications are supported.

Avid Interplay Assist also provides the following additional features:

• Restrictions — Support for a restriction marker indicating that a range of media being used is somehow restricted for use. These markers do not prevent usage, but alert the user that a restriction is in place. This feature is also referred to as Digital Rights Management (DRM).

• Annotations — labels you can attach to locators. Annotations support special markers such as the following:

    - Restricted flag

    - Best Picture

    - Best Sound

- - User-created custom annotation markers
- Metadata — textual data you can use to identify and describe the creation, contents, and disposition of a clip or shotlist
- Searching across multiple logs
- Log filtering

For more information, see the *Avid Interplay Assist User's Guide.*

iNews and Avid Instinct

The Avid iNEWS newsroom computer system (NRCS) is a powerful tool for developing news, rundowns, and stories. Avid Instinct allows producers, writers, and journalists to write Avid iNEWS stories and combine them with simple audio and video sequences that are available through the Avid Interplay Engine.

For additional information, see the *Avid Instinct User's Guide*.

Archive and Restore Services

An Avid Interplay environment supports a separate asset manager known as the Avid Interplay Archive Engine to track archived assets. The basic features and functionality that are used to track assets in the online storage system, including MultiRez support, are also available for the archived assets. The Interplay Archive Engine also supports partial file restore of Avid MXF media in the archive. A *partial restore* refers to a situation where there might be a large master clip in the archive but your sequence only uses a small portion of the master clip. A partial restore restores only the portion of the file that you need.

The following illustration shows an archive database displayed in Interplay Access.

Tree view   Safe image identifies the archive database

Avid Interplay online database

Avid Interplay Archive database
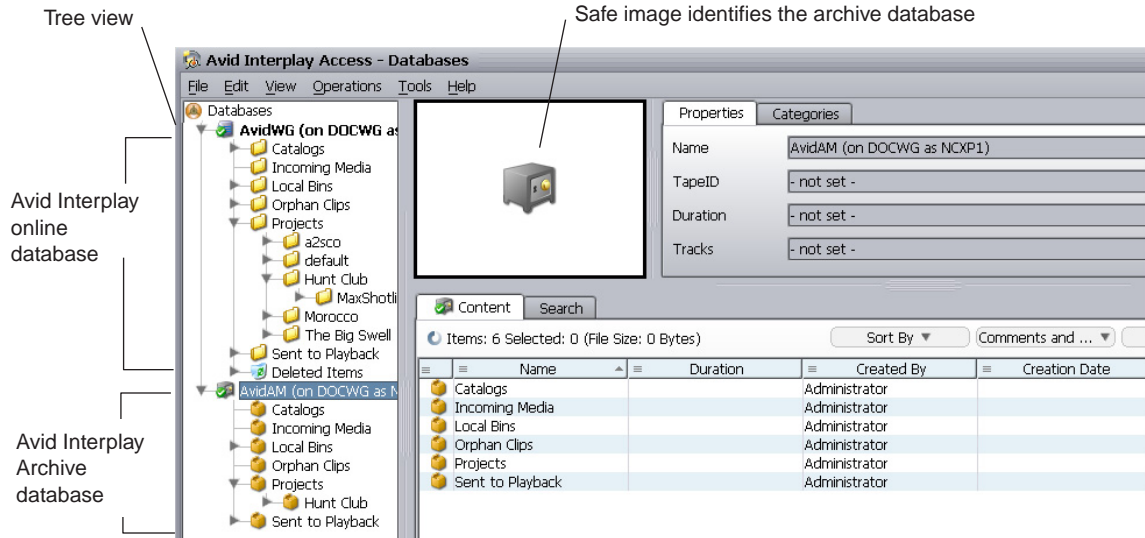
The Avid Interplay Media Services application supports Archive and Restore services that manage the process of moving data. You can access the Archive and Restore operations from within the Avid editing applications and from within Avid Interplay Access.

You can send high-resolution media to archive and keep a low-resolution version of the asset in the online storage system. This allows you to edit with the low-res asset and conform a "partial" file of the high-res asset from the archive.

The Auto Archive feature includes the following:

- An auto-archive folder that triggers an archive of any material placed in the folder
- Duplication of archive items automatically prevented (default option)
- Ability to append metadata and logging information to archived material

For additional information, see the *Interplay Media Services Setup and User's Guide*.

MediaManager Archive Solutions

Starting at Interplay v1.1.4, you can migrate MediaManager v4.5.x (also known as Workgroup 4) archived assets to an Interplay Archive environment. See your Avid representative for details on performing the migration. See "Archive Migration (Workgroup 4)" on page 287.

MediaManager to Avid Interplay Migration Tool

You can migrate much of your MediaManager environment metadata to an Avid Interplay workgroup with the Migration tool. You can migrate clips, sequences, and effects from projects, catalogs, workspaces, and users. You can also migrate MediaManager Archive metadata to an Interplay Archive system. For more information, see your Avid representative.

Avid Interplay Media Indexer

The Avid Interplay Media Indexer is a background service that keeps track of the media files in storage locations that you identify. In an Avid Interplay environment, each Avid editing application has its own local Media Indexer that manages the local storage areas on that system. Each Avid Interplay environment also has at least one Media Indexer that manages media on shared storage. When the Avid editing application needs to access media on shared storage, it communicates with its local Media Indexer, which then communicates with the shared storage Media Indexer. For more information, see .

Service Framework Services

Avid Service Framework is a common service distribution framework, which enables the configuration and monitoring of Avid services and applications in an Interplay environment.

Avid Service Framework consists of applications and services that provide dynamic discovery and lookup mechanisms, a scalable notification system, a centralized configuration tool, diagnostic logging for workgroup-enabled applications and services, system health monitoring, and so on. Some of the services are known collectively as Support services. The Support services are viewed, monitored, and configured using the Service Framework applications.

The Avid Service Framework provides the following tools for Avid Interplay:

- Scalable notification mechanism
- Configuration tool for centralizing configuration tasks
- Diagnostic Logging application for consistent logging across all Interplay applications
- Health and Monitoring application

Interplay Capture

Interplay Capture is intended for customers who require a management system for video capture. This application is a key part of the MultiRez workflow. Interplay Capture stores its schedule and other metadata in the Interplay database, which allows for easy access to the captured material within the Interplay work environment.

For information on Interplay Capture, see the *Avid Interplay Capture Administration Guide*, the *Avid Interplay Capture User's Guide*, and the *Avid Interplay Capture Install Guide*.

Access Control and Media Deletion Model

One of the most essential aspects of asset management is developing a system by which assets and their associated media files (for example, video and audio files) can be automatically and accurately protected from normal deletion. The administrator can specify the delete permissions that users and groups have on particular folders. Administrators and users can also use folder reservations to protect media files.

- A reserved folder protects any media files referred to by the assets in that folder.
- Folder reservations can have an expiration date so they don't needlessly protect media files after they are inactive.
- Administrators and file owners can override folder reservations.

For more information, see the *Avid Interplay Access User's Guide and* .

Interplay Application Icons

This section describes the Interplay icons.

Avid Interplay Access, Administrator, Instinct, and Assist

The Interplay Access icon has a purple background to signify that it is the main entry point that most people will use to work with the Interplay database. The Interplay Administrator has a similar look but with a key to denote the administrator. The Assist icon represents adding metadata to a locator track in Assist. The Avid Instinct icon is based on the iNEWS icon that has the same script "i" with a circle around the character.

Interplay Access

Interplay Administrator

Avid Instinct

Interplay Assist

Avid Service Framework

The Avid Service Framework icons use a tools-based hex nut design in all four icons.

Avid Health Monitor

Service Configuration

Avid Diagnostics

Workgroup Properties

Interplay Media Services

The Interplay Media Services Engine icon represents a controller or Broker controlling the Media Services jobs. The image of the curved line and connecting dots is repeated in several of the icons. In the Stream Publish icon the image represents the fact that the service continually watches for files to publish. Delivery represents the files being delivered across the world to different Interplay environments. The Copy and Move icons also use the curved line to represent the fact that Copy works on one ISIS system (between workspaces) while Move works between two ISIS systems.

The Interplay Transcode and STP Encode icons use broken lines and arrows to indicate that the application processes the media. Interplay Archive and Restore use the metaphor of moving media to and from an archive.

Interplay Media Services Engine

Interplay Stream Publish

Interplay Transcode

Interplay Delivery

Interplay Copy

Interplay Move

Interplay STP Encode

Interplay Restore

Interplay Archive
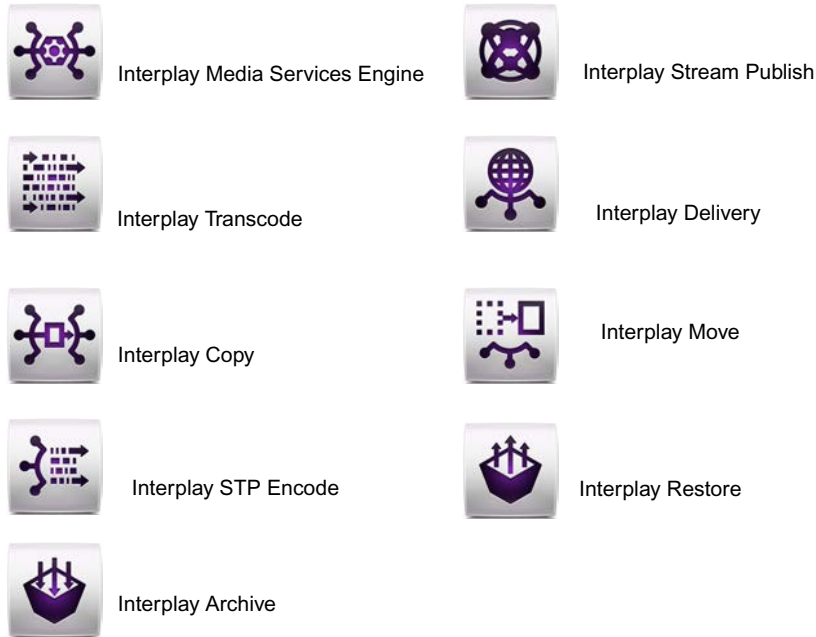
Interplay Transfer

The Interplay Transfer icons share a double arrow that represents transfers. In the case of FTP Clips List and FTP Media Browse, the arrows show that the application only transfers in one direction.

Interplay Transfer

Interplay FTP Clip List

Interplay Media Services and Transfer Status

Interplay FTP Media Browse

Interplay Transfer Configuration
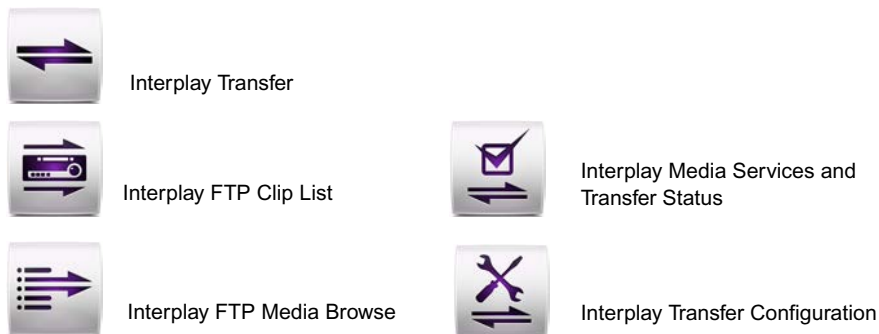
2 Setting Up a Folder Structure and a User Database

This chapter describes the process of setting up a user database for your Avid Interplay environment. This chapter includes the following topics:

- Permissions and Folder Structures
- Setting Up a Folder Structure in Interplay Access
- Basic Setup: Assigning Access to User Groups
- Assigning Database Access on a Project Basis
- Defining the Editor Database Settings
- Managing the Instinct/Assist User Settings
- Creating Folders for Capturing Media

Permissions and Folder Structures

The permissions that you assign to users in your workgroup define which folders users have access to. For example:

- At a small site, you might have a small group of editors and graphic artists that should always have Read/Write/Delete privileges on all files. You might also have a group of assistants that should have Read/Write privileges. In this case you can set up two user groups that have different sets of privileges. The access privileges you assign to those groups apply across the entire database. You can also change access for particular folders when necessary.

- At a larger site, you might have editors and graphic artists that work on different projects. Depending on the workload, they might be assigned to different projects at different times. In this case you might want to avoid confusion and not allow editors on one project to have Write/Delete privileges on projects they are not working on. This is easy to accomplish by creating project groups that have privileges that are inherited by any user that is added to the group. In this scenario, an editor can work on more than one project at the same time and they inherit permissions from both projects.

This chapter describes how to set up both scenarios.

Setting Up a Folder Structure in Interplay Access

Every project that you work on must have a folder structure. You can create folders within the default folders or create new ones. You can set up a folder structure that complements your workflow and allows people in your Interplay workgroup to easily navigate to their working folders. The following illustration shows folders used by the DocWG database. The administrator uses the default Catalogs folder for common elements that might be used by different projects. A new folder was created in the Projects folder for a documentary named 01 Ice Island. For additional information, see "Creating Avid Editing Projects in an Interplay Environment" on page 57.

Basic Setup: Assigning Access to User Groups

If you work at a relatively small site where all of the editors have access to all of the current projects, then you can set user permissions by user groups. For example, in the following illustration, the Editors group and the Graphics Artists groups have Read/Write/Delete privileges for the entire database. The Assistants group has Read/Write access to the database. You set up the permissions for each group in the User Management View of the Interplay Administrator window.
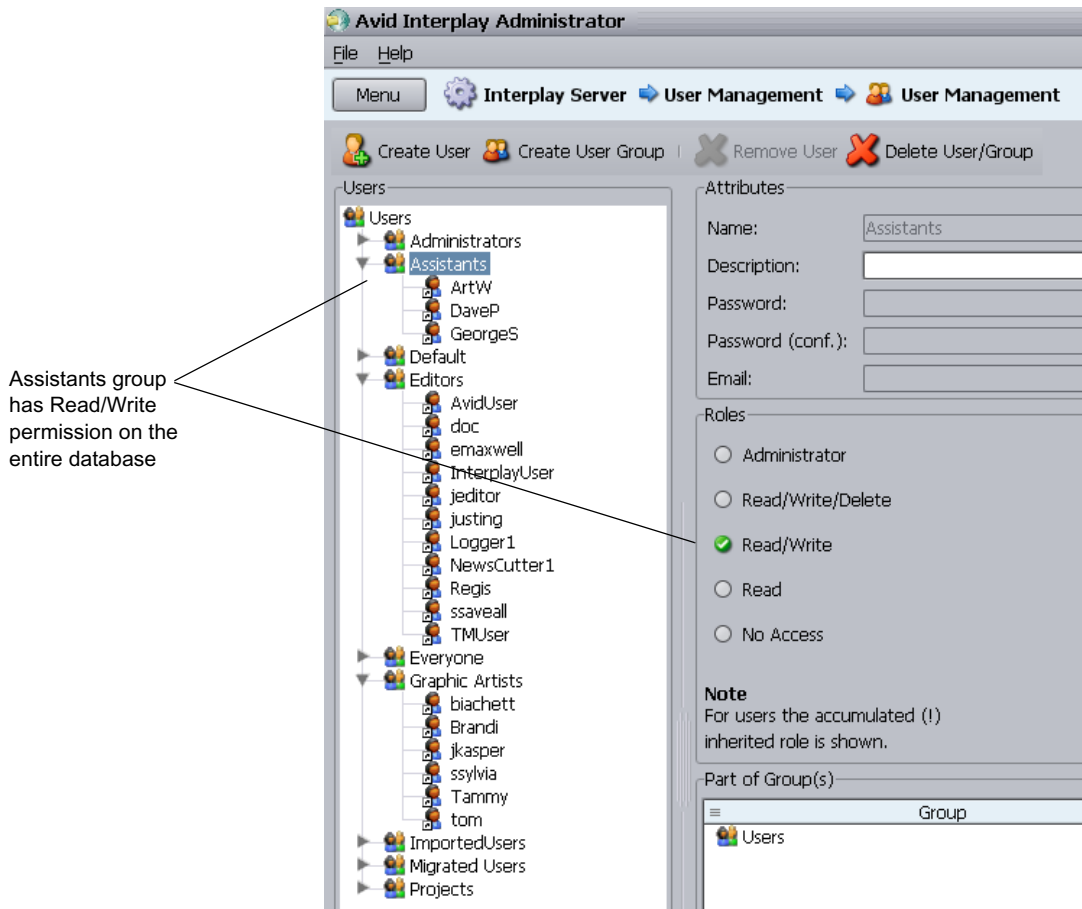
Assistants group has Read/Write permission on the entire database

For more information, see the *Avid Interplay Engine and Avid Archive Engine Administration Guide*.

Assigning Access Rights to User Groups on a Folder Basis

You can use the Manage Database Roles view of the Interplay Administrator window to set permissions on specific folders for user groups. In this example, the Assistants group has Read/Write access to the entire database but you would like to give them Read/Write/Delete permission to the Catalogs folder.

To use the Manage Database Roles window to assign permissions for a group:

1. Click Manage Database Roles in the Interplay Administrator tool.

The Manage Database Roles window opens.
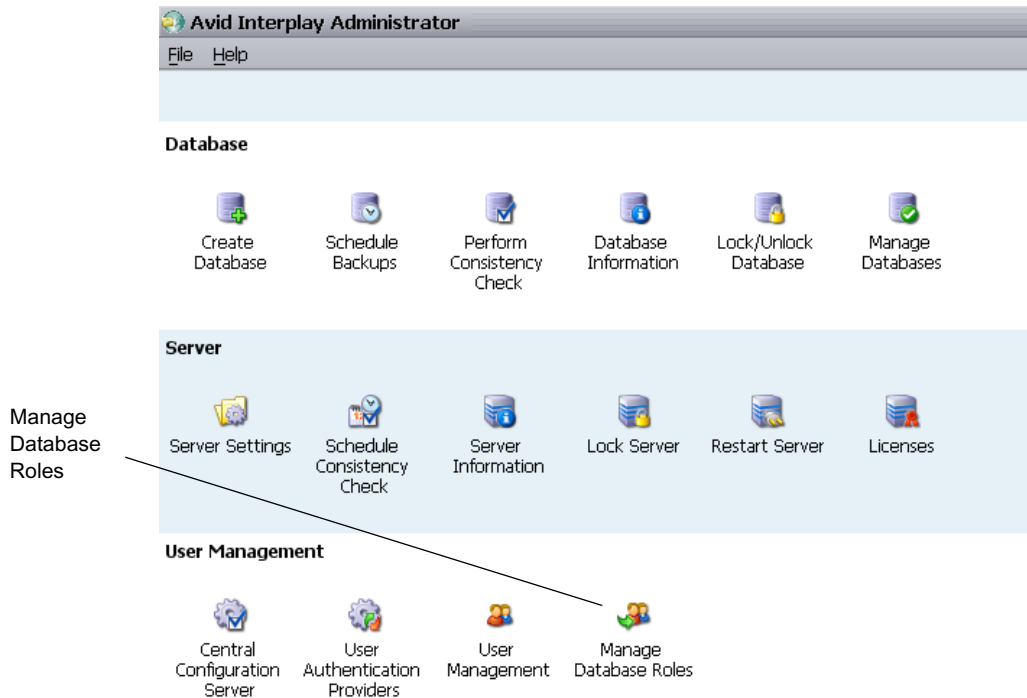
Database panel   User/Group panel   Roles panel
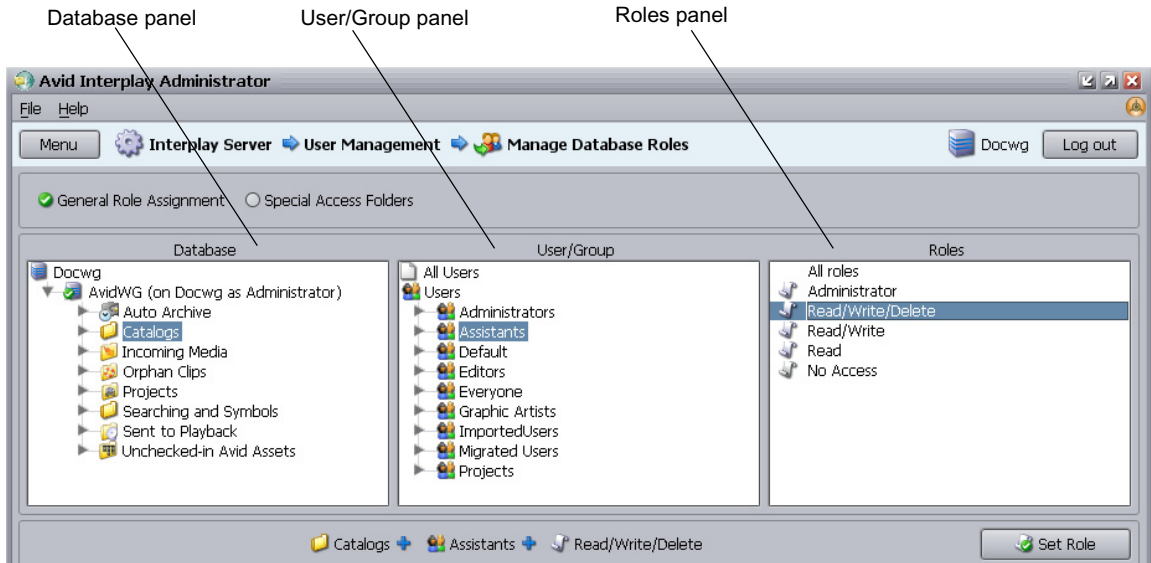
2. Select the folder that you want to assign permission to in the Database panel.

3. Select the folder containing the group in the User/Group panel and select the permissions in the Roles panel.

4. Click the Set Roles button.

Set Roles button
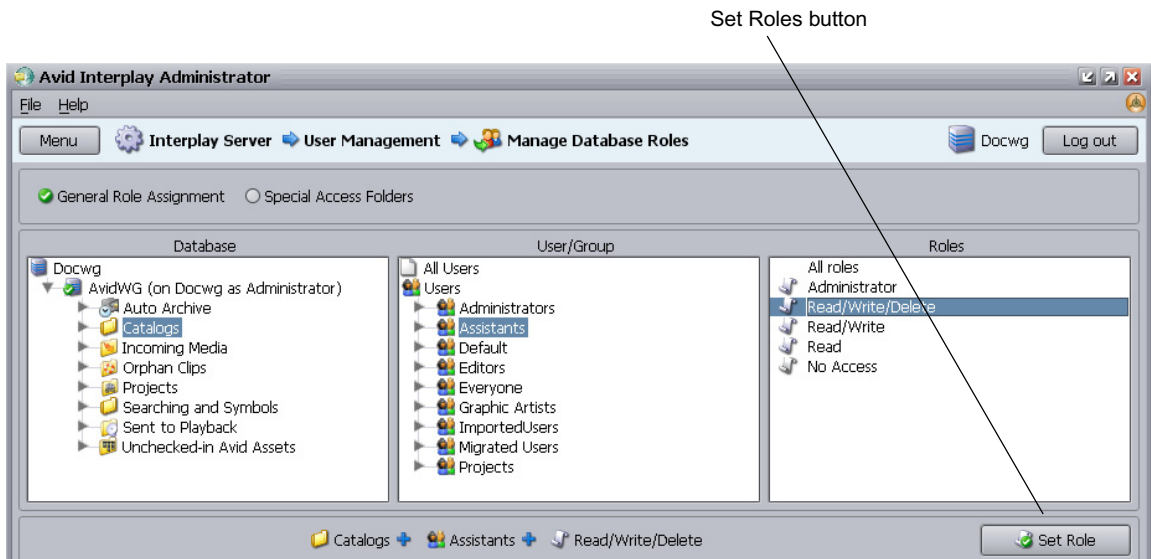
The permissions for that user group appear in the bottom panel as shown in the following illustration.

Assistants group has Read/Write/Delete access to the Catalogs folder
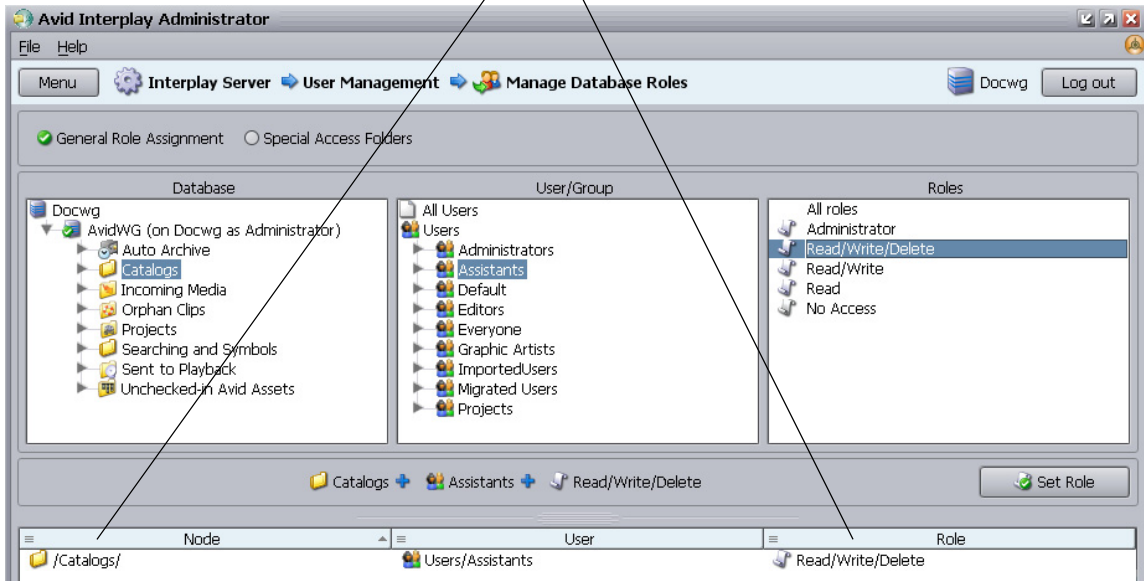
Assigning Database Access on a Project Basis

It is often useful to prevent users on one project from modifying or deleting material used by other projects. There are several ways to achieve this type of structure and the following guidelines show one way to accomplish this:

• Create user groups (for example, Editors, Graphic Artists, and Assistants) and give each user group "No Access" (or perhaps just Read-only access) to the database. Then add your users to the groups.

• Create another user group for Projects and assign either No Access or Read only access to that group. Then create folders within that group for each project.

• Assign permissions to the folders within the Projects folder.

• Copy your users into the folders in the Projects folder. A single user can be copied to more than one Project folder.

This section covers each of these topics.

The following illustration shows the user structure for two sample projects:

• The Hunt Club project group uses a one-level hierarchy. All users in the Hunt Club group will be given Read/Write/Delete access to all the files in the Hunt Club folder.

• The Ice Island project group shows a more complex structure where users are copied to different folders within the Project Folder. In this model you can assign different permissions to the different user groups within the Ice Island project.

Users can belong to multiple groups. The user inherits the privileges from both groups. In this example we initially give no access to Project groups. Use the Manage Database Roles window to assign the permissions for each group.

Managing Database Roles

In this example, users and groups initially inherit their Read/Write/Delete permissions from the folder they are working in. You use the Manage Database Roles window to assign these permissions. The following illustration shows the Manage Database Roles button in the Interplay Administrator window.
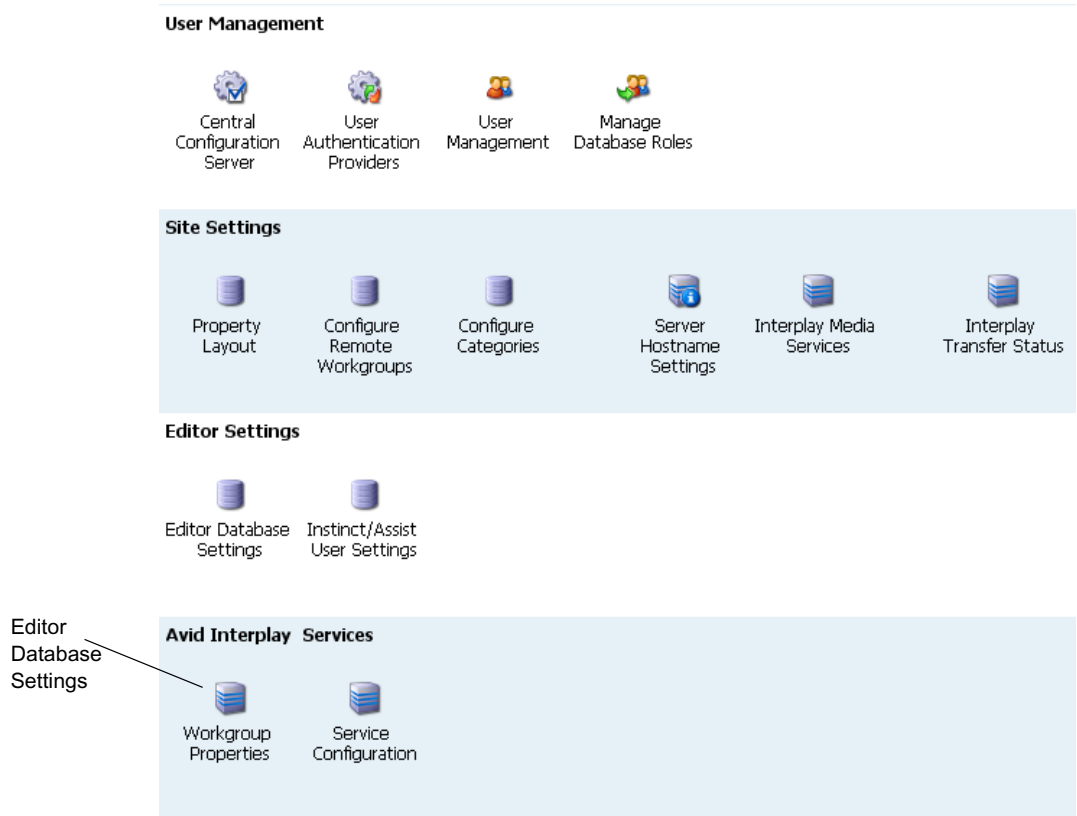
The following illustrations shows the permissions for the Ice Island Editors and Ice Island Assistants groups. Any user copied to these folders inherits these permissions when he or she is working in the 01 Ice Island folder.
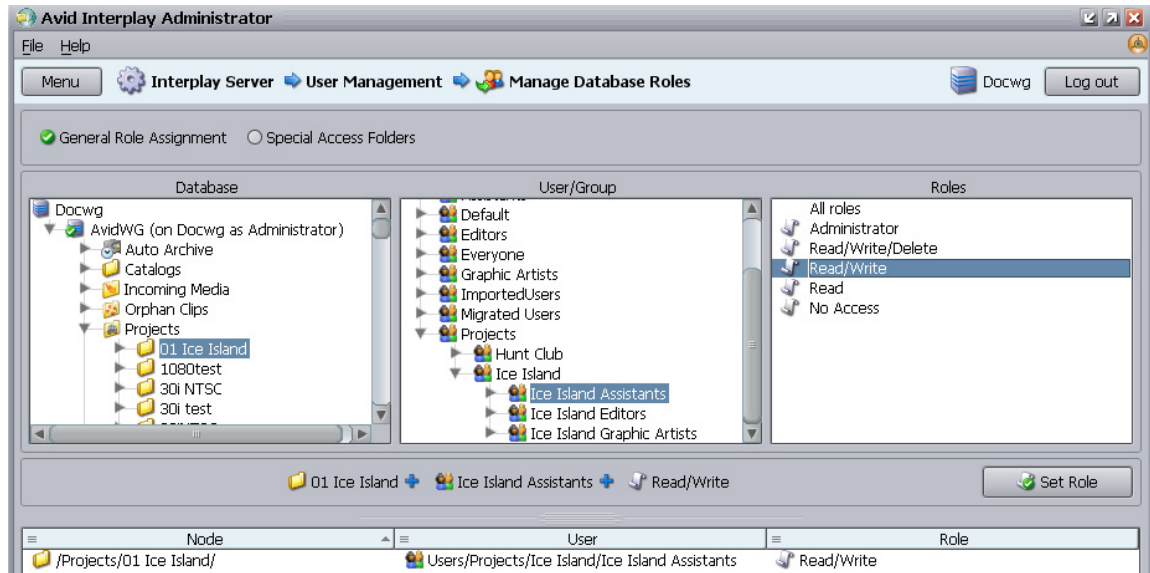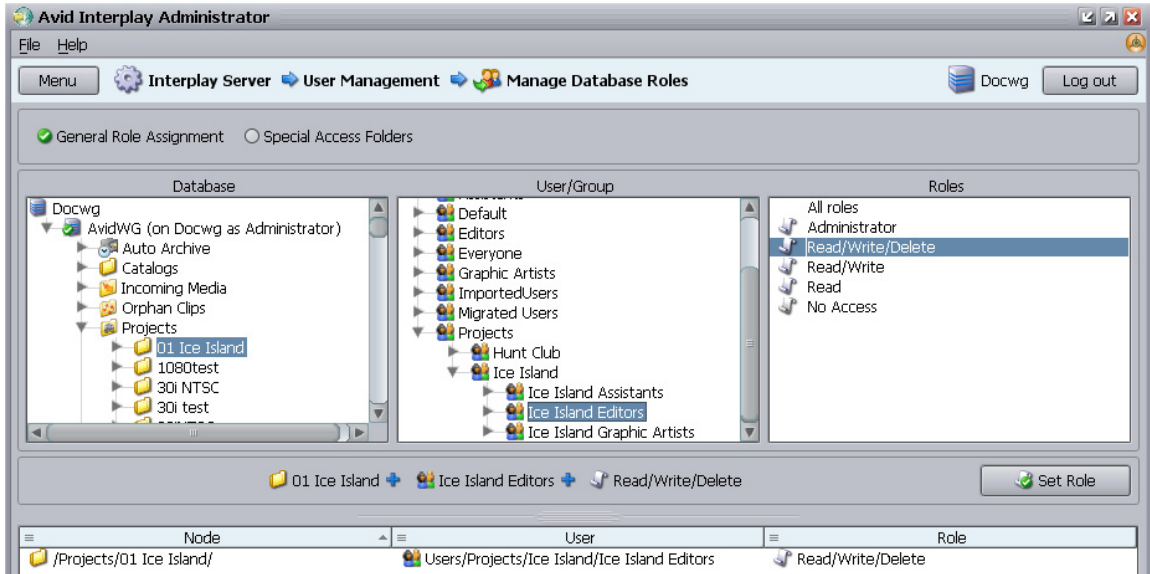
For details on assigning permissions, see "Assigning Access Rights to User Groups on a Folder Basis" on page 37.

Defining the Editor Database Settings

After you set up your folder and user structure, you use the Editor Database Settings window to define the following settings:

- Automatic Checkin and Auto Reservation settings. These settings apply to all editing applications, including Media Composer, Symphony, and NewsCutter Adrenaline, and NewsCutter XP.

- Project-related settings for Avid Instinct and Avid Assist such as target resolution and audio settings.

For additional information on the Editor Database Settings, see the *Avid Interplay Engine and Avid Archive Engine Administration Guide*.

To set the Editor Database settings:

1. Double-click Editor Database Settings in the Interplay Administrator window.

The Editor Database Settings window opens.

2. Click the root node for the database and define the default settings for the entire database.

Settings for the entire database

Auto reservations and Automatic Checkin settings apply to all Avid editing applications

Avid Interplay Administrator

File   Help

Menu   Interplay Server ➡ Editor Settings ➡ Editor Database Settings

Docwg
▼ AvidWG (on Docwg as Adminis
   ▶ Auto Archive
   ▶ Catalogs
   ▶ Incoming Media
   ▶ Orphan Clips
   ▶ Projects
   ▶ Searching and Symbols
   ▶ Sent to Playback
   ▶ Unchecked-in Avid Assets
   ▶ Deleted Items

Settings for: AvidWG/

Format

Video Format	Any

Audio - Track labels

Natural Sound label	NAT
Sound on Tape label	SOT
Voice Over label	VO

Audio - Source audio patching

Natural Sound track	A1
Sound on Tape track	A2
Voice Over track	A3

Audio - Storyline audio patching

Natural Sound track	A1
Sound on Tape track	A2
Voice Over track	A3

Audio - general settings

Voice over target workspace	WORKSPACE2
Audio sample rate	48kHz
Sample bit depth	16
Ducking [-dB]	-12
Audio file format	PCM

Send to playback

Target resolution, primary	DV 25 411
Target resolution, secondary	-not set-
Secondary target field	-not set-

Auto Reservation

Duration [h]	24

Bins

Check in bins when closing	Ask user

3. Click the Apply button in the lower right of the window. The settings apply to all folders in the hierarchy.

4. (Option) Select a folder and define the settings for the folder.

Managing the Instinct/Assist User Settings

If you have Avid Instinct or Avid Assist users in your Interplay environment, an administrator must select options in the Interplay Administrator window:

- Set the following in the Instinct/Assist User Settings window:

    - The working resolution for each Avid Instinct or Assist user. For this release, this value must be for each user individually.

    - Access settings that allow users to perform operations such as adding locators and restrictions, creating shotlists, and sending to playback. These can be set on a user basis or on a group basis.

- Set the project-related settings, such as such as target resolution, and audio settings, in the Editor Database Settings window. See "Defining the Editor Database Settings" on page 43.

- Set the workgroup name in the Server Hostname Settings window. The Avid Instinct and Avid Assist clients use this setting to locate the Media Indexer that monitors shared storage.

⚠️ **The workgroup name you enter in the Server Hostname Settings window must match the Workgroup name used by the Service Framework. The name must match exactly and it is case sensitive. You can locate and set the name in the Avid Workgroup Properties window. The following illustration shows the Avid Workgroup Properties window.**
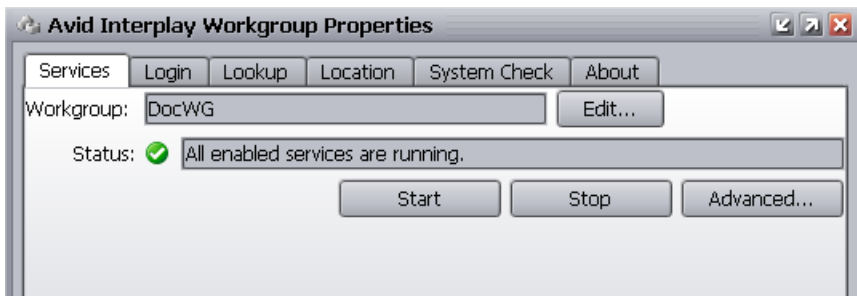
For more information, see the *Avid Interplay Engine and Avid Interplay Archive Engine Administration Guide*.

Creating Folders for Capturing Media

When you are setting up your folder structure, you can determine how you want to set up the folders that you will use for temporary storage of captured material. For additional information, see "Interplay Database Folder Structure" on page 48.

To ensure the best performance with the Interplay Engine, you should not store more than 20,000 files in a single folder. For example, if you are going to use the Incoming Media folder for captures, perform periodic deletions of files you no longer need in that folder. If you know that you will have recurring captures, you can set up folders for those captures. For example, you could name folders for the days of the week or for specific types of captures.

3 Developing an Interplay Delete Strategy

This document describes how to develop a workflow for deleting material from your Interplay system and covers the following topics:

- Introduction to Interplay Deletion
- Interplay Database Folder Structure
- Creating Avid Editing Projects in an Interplay Environment
- Project Workflow Samples
- Example: Deletion for Day-of-the-Week Workflow
- Example: Orphan Clips Deletion
- Deletion Guidelines
- Determining How Much Space a Delete Operation Will Free Up
- Searching for Media

The strategies proposed in this document are guidelines and may not be suitable for all workflows. Each site needs to develop its own deletion strategy, according to its own workflows, media throughput, storage capacity, archiving, and media protection policies.

Introduction to Interplay Deletion

Developing a successful strategy for deletion involves the following:

- Become familiar with the default folder structure of the Interplay database.
- Develop a consistent folder structure that complements your site's workflow.
- Develop a consistent way to create (and subsequently delete) projects among the Avid editing applications and among the users that capture, transcode, or otherwise create media on the Interplay database.
- Determine a regular schedule for deleting material from the following locations:
  - Interplay database folders. You can use Interplay Access to delete assets from the database as well as associated media files from shared storage.
  - Delete old projects from the editing application systems

- Delete out-of-date files from Airspeed and CaptureManager systems

• Become familiar with the Interplay Access Extended Search feature to let you easily locate material that should be deleted.

📖 *The deletion process changed in Interplay v2.4 so that Interplay administrators can schedule the most load-demanding part of deletion operations during times of low activity. For more information, see "Setting Options for Deletion" in the* Interplay Engine and Interplay Archive Engine Administration Guide.

Use Interplay Access when deleting assets from the Interplay database and deleting the associated files from shared storage. Avid strongly recommends that you do not delete files directly from the file system because the relationships between the clip metadata and the specific files that make up the clip are not obvious from the file system. Those relationships are managed by the Avid editing applications and the Avid Interplay Engine. Interplay Access is the best tool for managing the files in the Interplay database.

Interplay Database Folder Structure

Once you become familiar with how Interplay uses the various Interplay folders, you can organize and maintain your media more efficiently and start developing your own delete strategy. The following table lists the default folders.

Folder	Function
Catalogs	The following information can be stored in this folder:
	• You can create folders here that complement your overall workflow. For example, you can create folders with site-specific names such as Highlight Reels, and create folders for Auto-archive or Auto-transcode operations.
	• When ingesting media via AirSpeed, you have the option to specify that all created clips created be placed in a Catalogs folder. See "Folders Used by AirSpeed and CaptureManager" on page 50. AirSpeed Multi Stream does this by default.
	• When you perform a Resync, the system automatically places a Resync folder in the Catalogs folder. Any assets checked in while the system is performing a Resync are placed in this folder. You can move them to an appropriate location after the Resync is completed. For more information, see "Resyncing Media Files with Avid Shared Storage Workspaces" in the *Interplay Access User's Guide* or Help.
Incoming Media	This is the destination for incoming clips from AirSpeed, AirSpeed Multi Stream or Interplay Transfer. The folder structure is organized by workspace name. See "Folders Used by AirSpeed and CaptureManager" on page 50 and "Folders Used by Interplay Transfer Checkins" on page 55.

Folder	Function
Orphan Clips	Contains master clip and rendered effects that have been deleted from the Interplay folders but still point to media files on shared storage.
	The Orphan Clips folder provides a mechanism for protecting media files when you delete an Interplay asset and do not delete the associated media. For example, if you check the same master clip into two different Interplay folders, there are two copies of the asset in the Interplay database. If you delete both clips but do not delete the associated media, the system automatically moves the last clip to the Orphan Clips folder.
	One of the benefits of the Orphan Clips folder is that it allows you to retrieve deleted master clips if they are still associated with a sequence. For example, even though the last master clip associated with a media file is deleted from the Interplay folders, the associated media might still be included in a sequence. If you find that the media is in a sequence that you want to keep, you can retrieve the master clip from the Orphan Clips folder. You can use the "In Use" and "Not in Use" search criteria to determine whether assets in the Orphan Clips folder are used by any sequences. See "Example: Orphan Clips Deletion" on page 74.
	In order to delete all instances of a master clip, including those referenced by a sequence, you must enable viewing of Referenced Assets in Interplay Access. See "Determining How Much Space a Delete Operation Will Free Up" on page 83.
	By default, only administrators can view this folder. An Administrator can assign read/write/delete permissions for this folder to users or groups using the Managing Database Roles view in the Interplay Administration tool.
	Beginning with Interplay Access v2.4, the Orphan Clips folder also contains links for assets deleted from Interplay folders whose media files were deleted. This change enables an Interplay administrator to schedule the most load-demanding part of deletion operations during times of low activity. For more information, see "Setting Options for Deletion" in the Interplay Engine and Interplay Archive Engine Administration Guide.
Project	The following information is stored in this folder:
	• This is the default folder for Avid editing application projects. See "Project and Bin Folders Created by the Avid Editing Applications" on page 56.
	• Capture Manager creates folders here. See "Folders Used by AirSpeed and CaptureManager" on page 50.
	• AirSpeeds create folders here and/or under the Catalogs folder. See "Folders Used by AirSpeed and CaptureManager" on page 50.
	• Instinct creates folders here named after the iNEWS directory path and server name. See "Avid Instinct Assets (Daily)" on page 71.

Folder	Function
Sent to Playback	This folder contains the sequences created when you perform a Send to Playback operation. See "Folders Used by Send to Playback Operations" on page 55.
Un-Checked-In Avid Assets	This folder serves as a temporary folder for assets associated with newly created media. Avid editing applications automatically check newly created media into this folder. When you check in the bin or drag the assets to the Interplay Window, the Interplay Engine moves the assets to the corresponding folders. For additional information, see "Un-Checked In Avid Assets (Weekly)" on page 72.
Deleted Items	Serves as a recycle bin for non-Avid assets such as graphics files and Microsoft Word files. You can restore deleted items from this folder. The folder is created the first time you delete non-Avid assets from the Interplay database. Users only see what they deleted. An administrator sees all items deleted by all users. When an administrator deletes material from this folder, the files are permanently deleted.

The following section describes how the various Interplay applications use the folder structure.

Folders Used by AirSpeed and CaptureManager

This section describes the assets that are created when you use AirSpeed and CaptureManager to capture material to your Interplay system.

For an example of using AirSpeed MultiStream with Capture Manager and Interplay Capture, see "Folders and Shared-Storage Workspaces for an H.264 Workflow" on page 176.

Assets Created During an AirSpeed Capture

Each AirSpeed capture automatically creates either two or three Interplay assets as follows:

- One asset is checked into the Incoming Media folder. The system places the asset in a folder named after the workspace that AirSpeed uses for the capture. You specify the workspace in the Airspeed Destination template as shown in the following illustration.
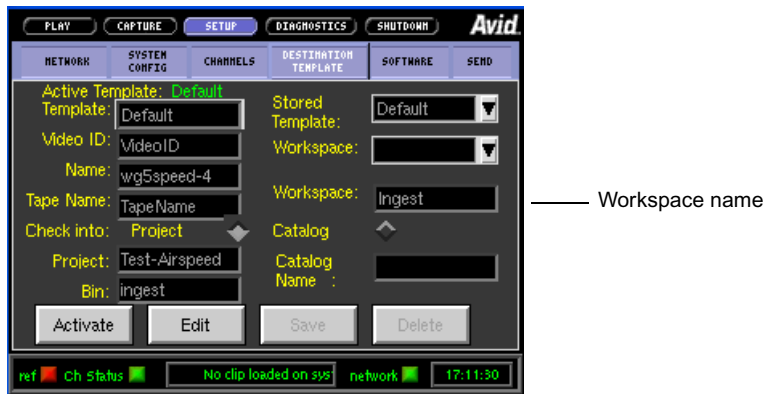
Workspace name

The following illustration shows the corresponding folder (named Ingest) in the Incoming Media folder. AirSpeed creates the folder if it does not already exist.

Folder created by Airspeed
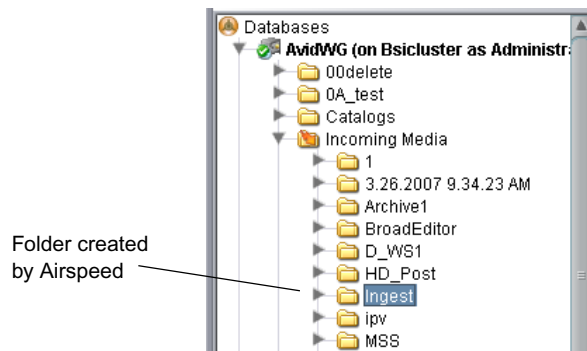
📑 *The associated media files are captured to the workspace specified by the workspace name in the AirSpeed Destination window.*

- One asset is checked into either the Projects folder or the Catalogs folder, depending on how you configure the Destination template in the AirSpeed application interface.

In this example the Projects folder is specified and names for the folder and sub folder are entered. The following illustration shows the corresponding folders that AirSpeed creates under the Projects folder when it checks in the asset.
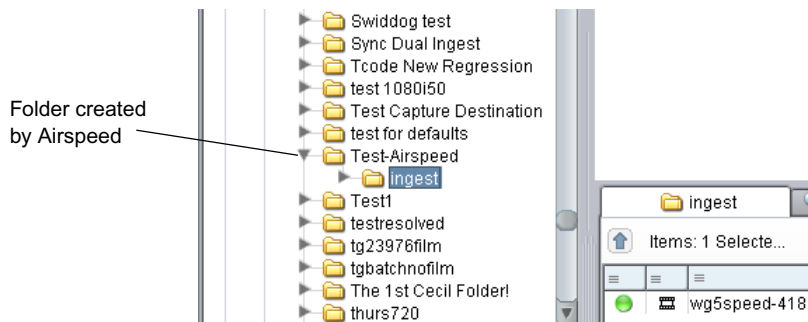
If you use the Catalog option, the system creates a folder with the name you specify and places it at the top level of the Catalogs folder. If you use the Project option, you can specify two folder levels: a project folder and a bin name.

•   If you use CaptureManager to schedule the capture, a third asset is created in a folder specified in the CaptureManager user interface. The following illustration shows a folder name identified when defining a channel for a capture.
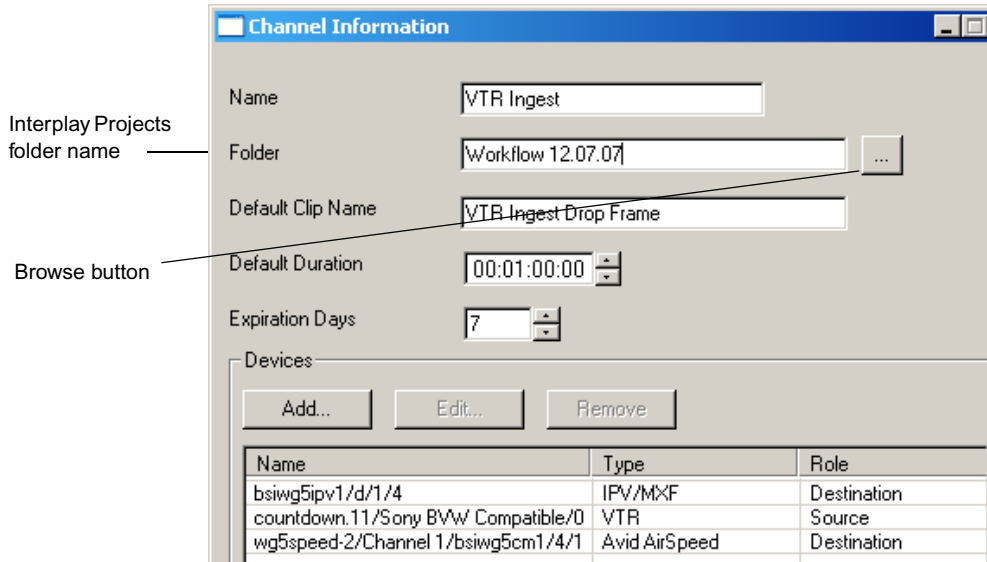
The following illustration shows the folder that this CaptureManager creates to check the asset into the Projects folder in the Interplay database.
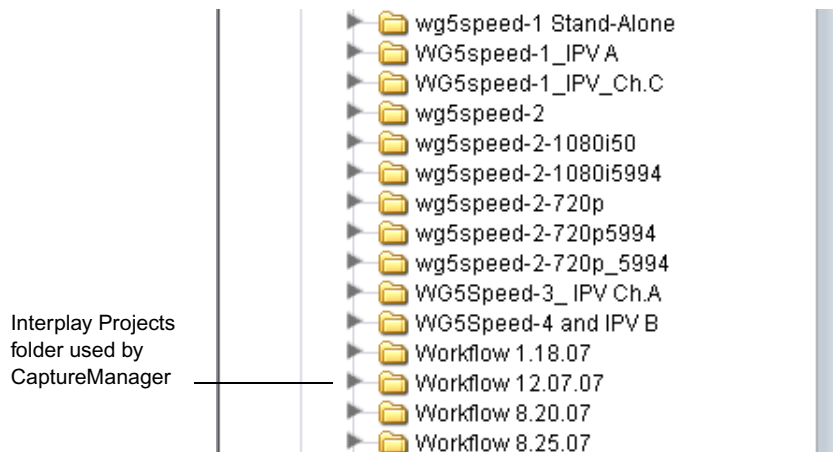
If you enter just a folder name in the Folder dialog box, the system creates a folder at the top level of the Projects folder. To create a folder at a different level, enter a pathname to the folder. For example, the following illustration shows a pathname in the folder text box. In this example, the system creates a WORKFLOWS folder at the top level Projects folder and also creates the necessary subfolders.

📖 *For an example of using AirSpeed MultiStream with Capture Manager and Interplay Capture, see "Folders and Shared-Storage Workspaces for an H.264 Workflow" on page 176.*

• The Browse button on the CaptureManager Channel Information dialog box displays the folder structure of the CaptureManager SQL database. This database is not connected to Interplay but identical folders are created in the database. If you navigate to one of the SQL database folders, CaptureManager will use that path name to create an Interplay database folder. For example, in this case the system creates a matching folder structure starting with "WORKFLOWS" under the Projects folder.

• If you are using a CaptureManager to schedule a dual ingest (for example, high res on AirSpeed and low res on Avid Low Res Encode system) an additional low res media file is created and both resolutions are represented by the same Interplay asset.

• If you are using the Scene Change option on the Avid Low Res Encode, the system creates multiple subclips and also creates a folder in the Projects or Catalogs Bin folder you designate via CaptureManager. CaptureManager checks the multiple subclips into the folder, one for each scene change. Depending on the source, this kind of capture can create many subclips in the folder. The following illustration shows an example.
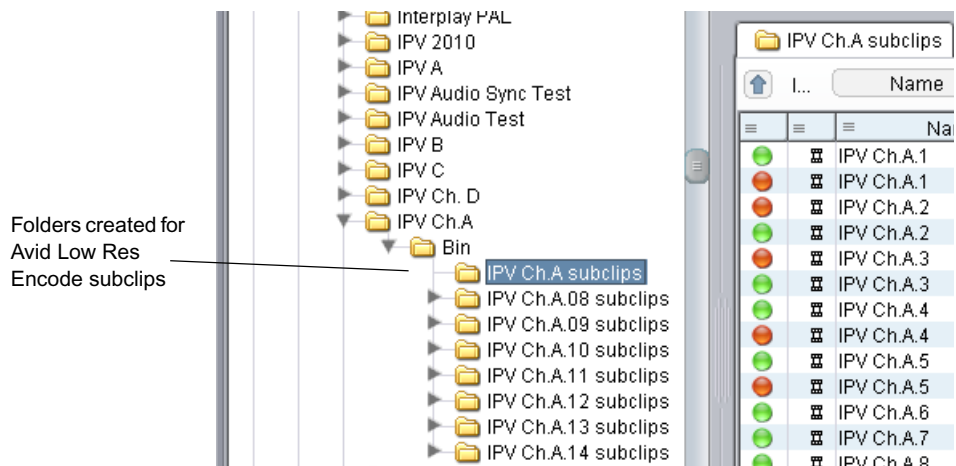
Summary for AirSpeed Checkins

Depending on the type of capture, you can have multiple assets checked in for one capture operation:

- For an AirSpeed capture without CaptureManager, the system checks in two assets for each captured media file. Assets are checked into the following folders:

  - Incoming Media

  - Catalogs or Projects folder (defined by AirSpeed)

- For an AirSpeed capture scheduled by CaptureManager, the system checks in three assets for each captured media file. Assets are checked into the following folders

  - Incoming Media

  - Catalogs or Projects folder (defined by AirSpeed)

  - Projects folder (defined by CaptureManager)

- For a dual-ingest capture using CaptureManager, AirSpeed, and Avid Low Res Encode, the system may create additional assets in the folder created by CaptureManager depending on whether the Scene change option is enabled. In this case there is an asset for each additional low res subclip.

Folders Used by Interplay Transfer Checkins

Assets checked in by a Workgroup to Workgroup Transfer or other Interplay Transfer operations are placed in the Incoming Media folder. Assets are organized by the name of the workspace that the media is transferred to. For additional information on files checked into the Incoming Media folder, see "Assets Created During an AirSpeed Capture" on page 51.

Folders Used by Send to Playback Operations

When you use Interplay Transfer to send a sequence to playback, the system automatically checks the sequence into the Sent to Playback folder. The default organization is by "week of the year" and "day of the week" as shown in the following illustration.

Default Sent to Playback folders
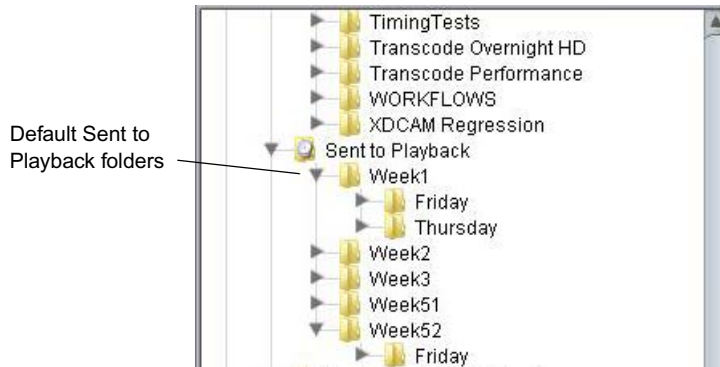
You can also instruct the system to create an additional folder in the Catalogs folder. The following illustration shows a Sent to MSS002 folder created in the Catalogs folder. In this case an asset is also checked in to the Sent to Playback folder.

Custom Sent to folder
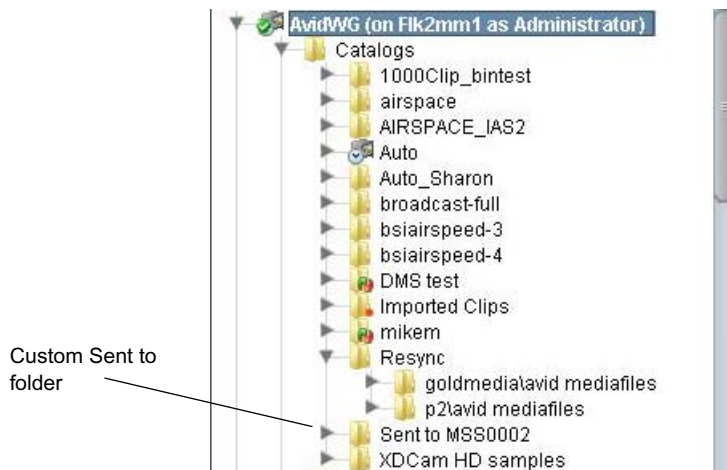
For more information on creating an additional folder, see "Configuring an Ingest Device Catalog" in the *Interplay Transfer Setup and User's Guide*.

Project and Bin Folders Created by the Avid Editing Applications

Editors, after login, select a project that they will work in. This project and its associated bins are checked in to the Interplay database when the editor uses the Check in Bin to Interplay command. You can also instruct the system to automatically check in bins when the editor closes the Avid editing application.

For additional information, see .

Creating Avid Editing Projects in an Interplay Environment

One of the biggest decisions you will make regarding your workflow is the location of the projects and bins created by the editing applications. A predictable folder structure allows for the following:

- Creates an easily maintained folder structure in the Interplay database

- Makes it easy for editors and other users in the organization to locate assets that are used by different projects

- Makes it easier for the Administrator to delete older projects on the Avid editing systems

This section covers the basics of creating a project structure that is easy to maintain in an Interplay environment.

Creating Projects

In a large Interplay environment it is important to locate Avid editing projects in areas that are easily accessible by the Administrator that has to delete the projects. This section describes the options for choosing a location for newly created projects.

When you start the editing application, the system displays the project log in window. From this window, you can create a project that is either Private, Shared, or External.

The best choices for a shared structure are either Shared or External. These types of projects are created in a common location, making it easier for the Administrator to locate and delete old projects.

Any user can create or delete a project via the editor. Keep your project structure consistent to make the Interplay database easy to maintain.

If you are working with projects created on local drives, then note the following:

- A local project resides on the C: drive of the Avid editing system.

- If the connection between the Avid editing system and shared storage is lost, the project and its contents are unlikely to become corrupt as a by-product.

- You cannot login to the project from another workstation. You (or other users) must go to the Interplay Projects folder to locate the contents created in this project.

- From an administration standpoint, you must clean these projects up or archive them from each editing system. At a large site this can become time consuming and needs to become part of the Administrator's workflow.

Private

A Private Project is stored locally. It can be accessed only by the user currently logged on to the editing machine. On a Windows system, a Private Project is always stored under the user's Documents directory. An administrator may be able to access this project if they have read/write permission to the user's directory.

Private Project - under the My Documents/Avid Projects folder
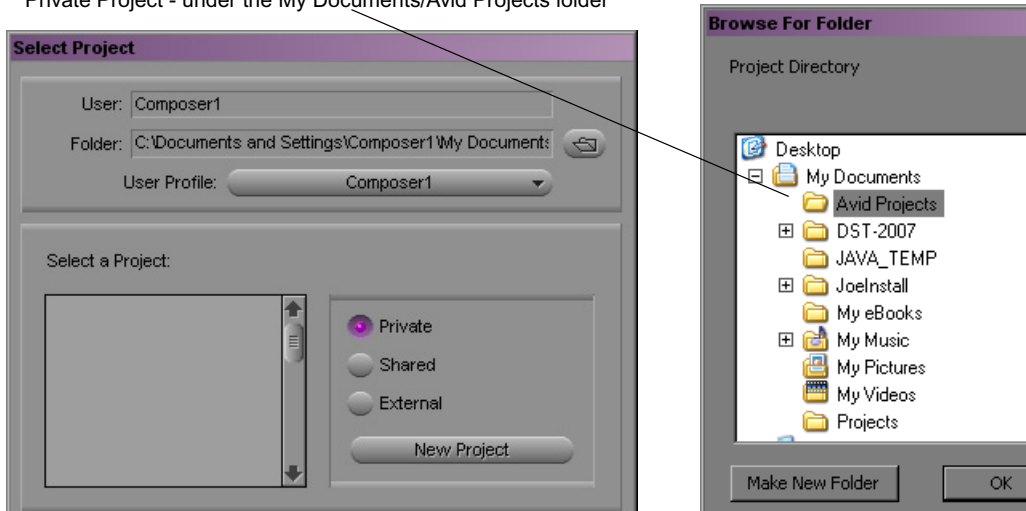
Shared

A Shared Project is stored locally. It can be accessed by any user that can log on the editing machine. On a Windows system, a Shared Project is always stored in the machine's Shared Documents directory.

Shared Project - under the Shared Avid Projects folder
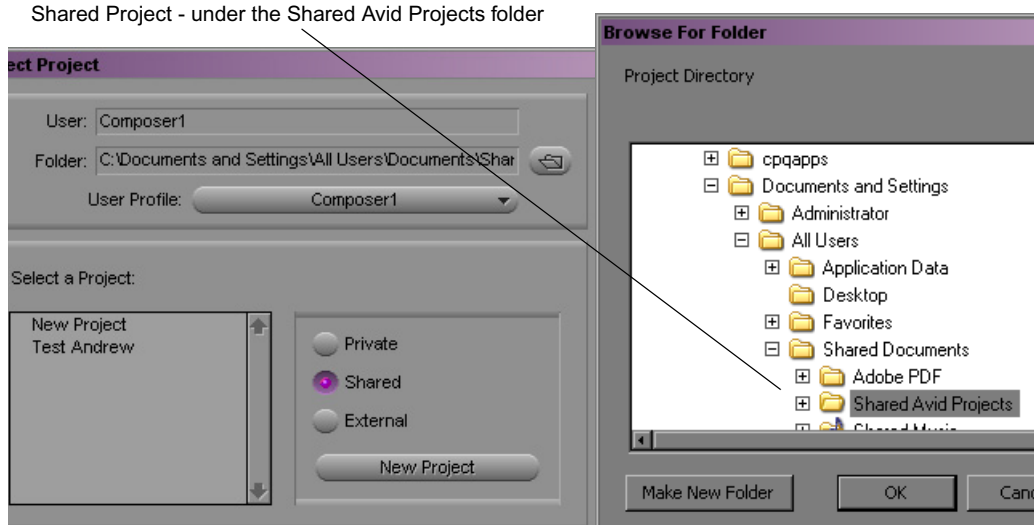
External

An External Project can be saved to any directory, either local or remote. Depending on the file-system permissions set on the selected folder, other users or an administrator may or may not be able to access the project. The external option is particularly useful when you want to save the project on shared network drive to make project maintenance easier.

Avid does not support sharing bins in an Interplay environment. If you create projects on shared storage, do not allow editors to work in the same bin at the same time. This can result in data loss or media corruption. Instead of sharing bins, editors should use the Interplay Window to collaborate and share material.

External Project - the editor can specify the location
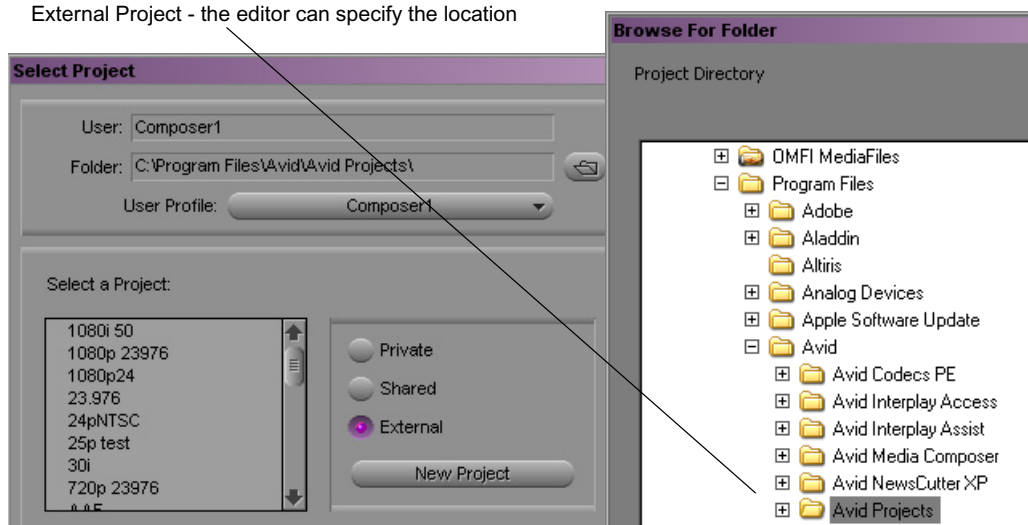
Interplay Settings in the Editing Application

The Interplay Folder setting defines where the Avid editing application checks files into the Interplay database. After you open a project you can specify several Interplay settings, including the Interplay Folder. To access the settings, open the Settings scroll list in the in the Project window. The following table lists the Interplay-related settings.

Option	Description
Interplay Server (Site Setting)	Specify the name of the Interplay Engine for the environment. If the site has an Interplay Engine Cluster, this is a virtual name that will log in to the active node.
Interplay User (User Setting)	Specify the name of the default Interplay user (if applicable) and check the Automatic Login at Project Selection checkbox. This does not auto-login to Interplay, but prompts the user to do so after logging in to their project.
Interplay Folder (Project Setting)	Interplay organizes assets and media by folders. The default checkin folder must be set on each Avid editing application.
	By default, the folder path is empty. The Interplay database Projects folder is a good location to use. This will check the assets into a folder with the name of the bin inside the folder for the project. Click the Set button to navigate to the directory you want to use. After you select the Projects folder, the Interplay Folder Settings dialog box will display the following:
	Projects/<project>

Option	Description
Dynamic Relink	This setting is utilized in MultiRez environments, to specify the working and target resolutions for the Avid editing applications. The term MultiRez refers to having a single master clip associated with multiple resolutions. For additional information, see the Help for your Avid editing application or the Interplay Help.
Media Services	This setting specifies the Media Services Engine information. This allows the editor to submit Transcode, Pro Encode, or Archive jobs to the Media Service broker to hand off to the provider. When logged in to Media Services the client can submit the jobs using the File menu options or by right-clicking assets in a bin. You need to specify that Media Services are available, the Host name of your Media Services Engine, and a valid Interplay login account.

Defining the Interplay Folder Setting

The Interplay Folder setting defines where assets will be checked into the Interplay database. You need to define the location for each project. The examples in this chapter assume that you are using the Projects folder in the Interplay database. The following illustration shows the setting defined for the Projects folder. Use the Set button to define the location.
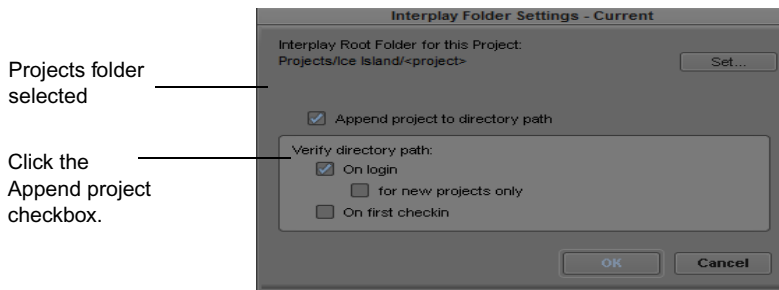
The following illustration shows a folder for a project named "The Big Swell" created in the Projects folder. The folder was created automatically when the editor checked the first bin into Interplay using the Check in Bin to Interplay command. The system automatically created both folders and checked in the assets into the folder.

Folders created by checking in the bin

Checked in assets
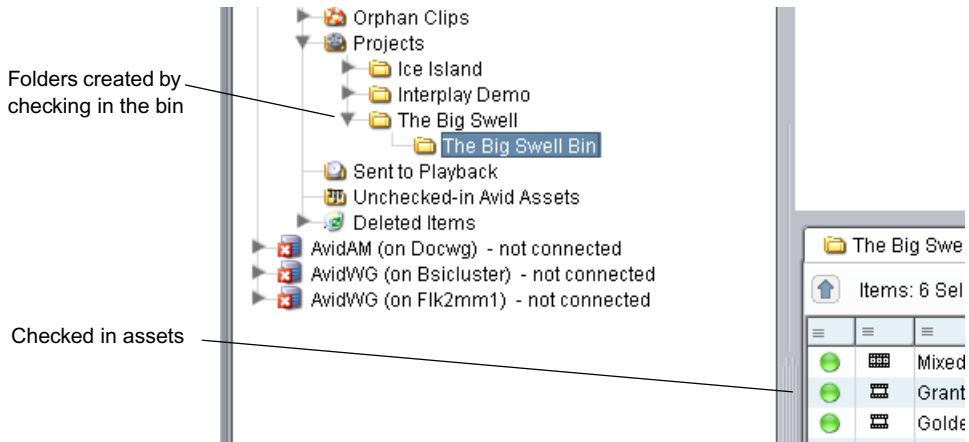
For a Day-of-the-Week workflow, use the Projects\<project> setting in the Interplay Folder Setting window. Then, when multiple editors work in the 01Moday project, there will be one 01Monday folder populated by the bins from each system. This keeps the organization easier to maintain.

To instruct the system to automatically check in bins when the editor closes the application, select the Bins option in the Editor Database Settings window in the Avid Interplay Administration tool. The default is to ask the editor before checking in the bin.

Defining the Media Creation Settings

Use the Media Creation dialog box to define where you want the Avid editing application to store newly created media.This is usually a workspace on shared storage that is monitored by the Interplay Media Indexer High Availability Group.

To define the Media Creation settings:

1. Click the Settings tab in the Project window of the Avid editing application.

2. Double-click Media Creation.

3. (Option) On the Drive Filtering and Indexing tab, click Auto-index local drives as they come online.

4. Click the Capture tab.

5. Select the video resolution and shared storage workspace for capturing new material.
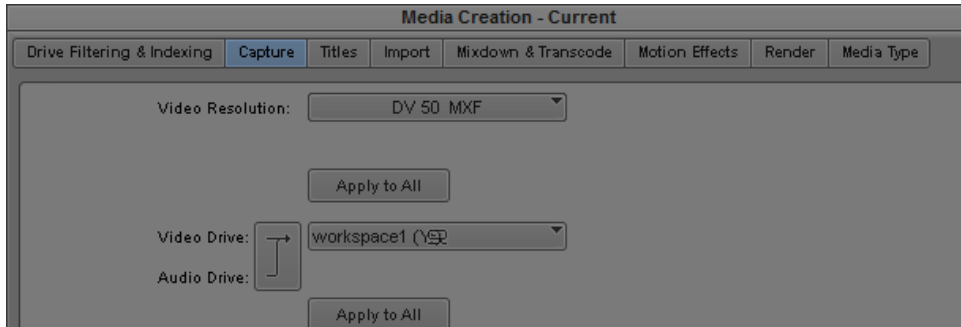
6. Select the options for the other tabs (Import, Render, etc.).

Project Workflow Samples

This section describes sample folder structures for Broadcast and Post environments.

Whatever the structure, the more simplified the Project and the Interplay Folder structure, the easier it is to maintain the Interplay environment.

Local Projects

This document assumes that you are using Local projects (projects created on local drives of the Avid editing applications). For more information, see "Project and Bin Folders Created by the Avid Editing Applications" on page 56.

Local projects guarantee that only one user will be in a project at any given time. Other editors must access the material through the Interplay folder structure.

Broadcast Project Examples

Many broadcast sites use a Day-of-the-Week structure for organization and ease of administration. Broadcast projects are time-sensitive and items are often removed from the system within days. This convention makes it easy for users to locate material, and it makes it easy for administrators to maintain the system.

For example, if a site decides to use a 1Monday through 7Sunday project structure, this allows them to regularly delete the daily projects. This reduces the likelihood of the project becoming corrupted over never-ending use and also cleans out old tape names.

The following table shows some sample project names.

Weekly Structure	Monthly Structure (September)
1Monday	0903 Monday
2Tuesday	0904 Tuesday
3Wednesday	0905 Wednesday
4Thursday	0906 Thursday
5Friday	0907 Friday
6Saturday	0908 Saturday
7Sunday	0909 Sunday
Hold	Hold
Permanent	Permanent

In these examples the day of the week is the project and the story is the bin. The Hold folder is for continuing stories and the Permanent folder is used for items such as frequently used graphics, music, bumps, and show openers.

The day of the month monthly structure provides the ability to work further than a week ahead but requires more work creating projects. When using this model you have to create 28-31 days of the month projects manually. To simplify the operation you can copy from a template and rename the project and the .avs and .avp files within the project.

Post Environment Project Example

The Day-of-the-Week structure is usually not appropriate for Post environments because a Post site may work on projects for several weeks or months at a time. You should develop your own structure based on your particular workflow. Keep in mind that when projects and bins are clearly named (for example by program name) it is much easier to maintain the folder structure.

The following illustration shows a sample Post structure for a project named Ice Island. Most of the subfolders were created when bins were checked in by the editors. The HOLD folder is created by the Media Manager in Access and is used for master clips, frequently used graphics, and other elements that should not be deleted. In this example when editors want to make sure certain assets are not deleted, they either copy the assets to the HOLD folder themselves or request that the assets be copied to the folder.
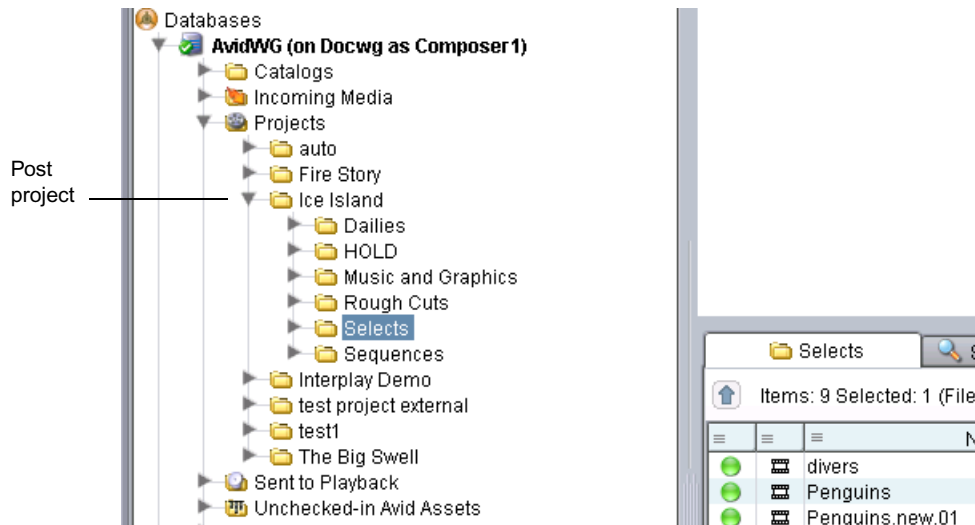
In this example the HOLD folder is on a per-project level because there may be some elements that you do not want to share between different shows.

Using this model, the Administrator could delete the entire project folder after production has finished. Before deleting the folder, check whether editors want to archive finished sequences or some of the dailies. The following are some archiving methods:

• Move the assets to a reserved HOLD folder elsewhere in the Interplay folder structure

• Perform a digital cut to tape

• Perform a Send to Archive operation

Using Project Templates

Typically, a site creates a folder called Project Templates (either locally or on a shared storage workspace). This example uses the Day-of-the-Week structure. In the example the Administrator deletes the current "1Monday" project from the editor's local machine and copies and pastes the template to provide a new starting point.

To copy a project template to a local system:

1. Navigate to the location of the Project Templates.

2. Right-click on the 1Monday folder and select Copy.

3. Navigate to the current 1Monday folder on the local machine and delete the folder.

4. Paste the template 1Monday folder into the same location.

Example: Deletion for Day-of-the-Week Workflow

You should use Interplay Access to perform the majority of the administration of the Interplay assets on the Avid shared storage system. You should always use Interplay Access to delete media files from shared storage. Keep in mind that media and metadata also has to be deleted from other places in the system (in particular, from Avid editing applications and from AirSpeed and CaptureManager systems).

📖 *The deletion process changed in Interplay v2.4 so that Interplay administrators can schedule the most load-demanding part of deletion operations during times of low activity. For more information, see "Setting Options for Deletion" in the* Interplay Engine and Interplay Archive Engine Administration Guide.

Sample Delete Workflow

The following table lists deletion activities based on the Day-of-the-Week Project workflow and points to the sections that explain the operations.

Interplay Component	Activity
Interplay Access	Delete daily project and those other projects ready for deletion. See "Project Folders – Editor Projects (Daily)" on page 67.
	Delete material from the AirSpeed project or catalog. Sift the results by creation date and delete."Projects Folder – Ingest or AirSpeed Folders (Daily)" on page 69.
	Delete material created by CaptureManager under the Projects folder. See "Incoming Media (Daily)" on page 70.
	Delete story folders and sequences created by Avid Instinct. Search or navigate to each Instinct project under the Projects folder (iNEWS Server Name-Show-5PM-Rundown for example) and delete story folders and sequences. See "Avid Instinct Assets (Daily)" on page 71.
	Delete Sent to Playback for the day of the week that you deleted above-located under the week number. See "Folders Used by Send to Playback Operations" on page 55.
	Delete items in the Orphan Clips folder. See "Orphan Clips (Weekly)" on page 71.
	Delete material from the Un-Checked in Avid Assets folder. See "Un-Checked In Avid Assets (Weekly)" on page 72.
	Delete from the Deleted Items folder. See "Deleted Items (Weekly)" on page 72.

Interplay Component	Activity
Avid editing applications	Delete daily project and those other projects ready for deletion. This must be done from all editors. "Avid Editing Application Maintenance" on page 73.
	Delete the project or projects deleted in the step above out of the Attic. You must do this on each editing system.

Project Folders – Editor Projects (Daily)

The fastest way to clean up space on the system is to delete entire folders from the Interplay database. You can delete an entire folder and all the media that is referenced by the assets in that folder. For information on how the Avid editing applications create folders in Interplay, see "Project and Bin Folders Created by the Avid Editing Applications" on page 56.

After using the system for a few weeks, determine how long it takes to reach the maximum storage capacity of your shared storage workspaces. Then you can determine how often you will need to delete material.

On Avid ISIS, attempt to keep the used space under 80% of the capacity of the Storage Group for each Storage Group on the ISIS. Use the ISIS Administration Tool/Storage Groups tab to view this information.

For the Day-of-the-Week model, after you determine how long it takes to reach your maximum capacity, set up a schedule to delete the day of the week project a specific number of days after the project day. For example, always delete the 1Monday project on Friday. Note that you will also have to delete the corresponding local projects on the Avid editing systems as well.

To delete Project Folders and associated media:

1. Open the Projects folder in Interplay Access.

2. Locate the project to delete.

3. Right-click the folder and select Delete. The Delete window opens and displays the clips in the folder.

4. Click Select All to select all the assets, files, and resolutions. The center portion of the dialog box shows how much free space you will gain from the Delete operation.

The amount of disk space that will be freed by the deletion
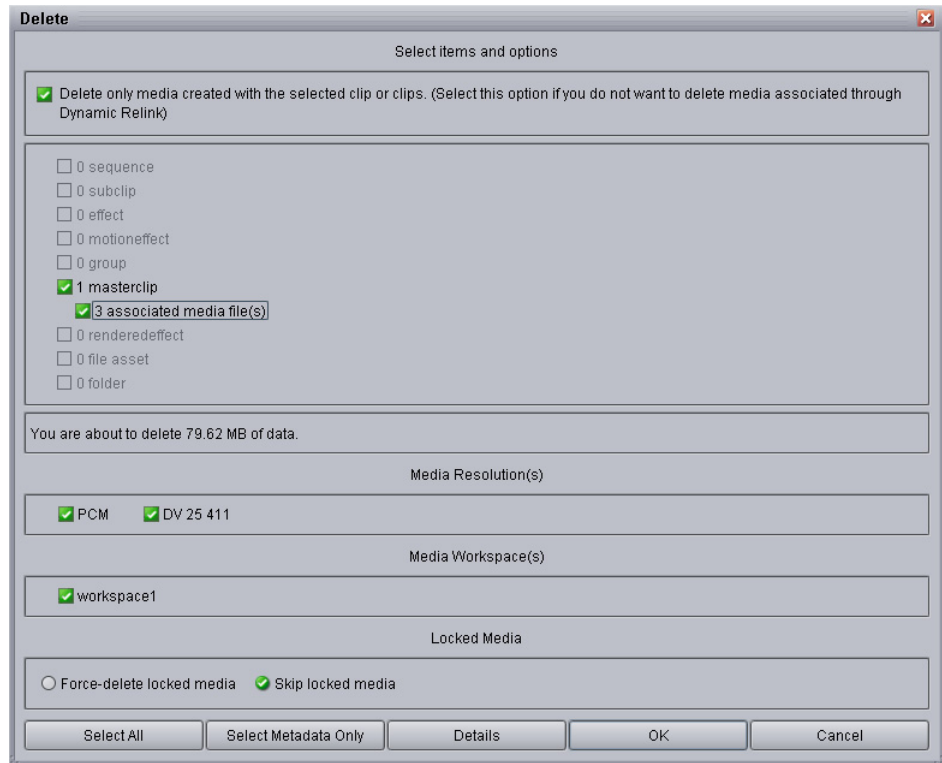
📖 *The number of media files and the amount of data that will be deleted are only affected by the option "Delete only media created with the selected clip or clips." This information is not affected by your selections in the Media Resolutions or Media Workspace sections of the dialog box.*

5. Click OK.

   The system displays the Delete in Progress window and indicates whether any files were reserved. The system does not delete any media files associated with reserved items and does not delete the folder containing the reserved assets. You may wish to move reserved items to a Hold folder and then delete the folder that contained the reserved assets.

6. After the folder is emptied, the system deletes the folder. If there are any non-Avid assets in the folder (for example, graphics files or text files) the system asks if you want to delete the files and the folder from the Interplay database.

Using Reservations to Protect Media

All users (for example, editors, producers, and journalists) must know how to use Reservations to protect assets if they want to keep media on the system any longer than this number of days. If an editor wants to keep material on this system, the assets must be in a folder with a reservation on it. The media files will be protected as long as there is a reservation on the folder containing the asset. Reservations are either permanent or on a timed basis. For additional information, see "Using Reservations" on page 80.

Besides using Reservations, the editors can also request that the assets be moved or copied to a Hold or Permanent folder. Its is useful to develop a method of easily communicating this kind of information. For example, editors could use the Messenger feature in Interplay Access to identify assets or folders that they need protected.

Projects Folder – Ingest or AirSpeed Folders (Daily)

The Projects folder contains assets that point to media created by AirSpeeds. See "Folders Used by AirSpeed and CaptureManager" on page 50.

In this case, do not delete an entire folder (for example, Week1) because it contains material from all seven days of the week. This section describes how to delete selected assets.

To delete assets from the Ingest or Airspeed folders:

1. In Interplay Access, click on the Projects Folder (or Catalog folder depending on where Airspeed created the folders).

2. Open up the folder called Ingest or AirSpeed.

3. Select Creation Date from the Sort By list. This will show the oldest material.

Sort By list
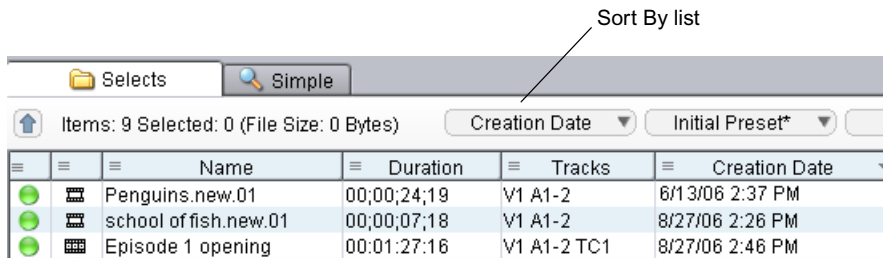
4. Ctrl-click on all the clips from the day that was deleted in the previous section.

5. Right-click on one of the clips and select Delete.

6. Select the metadata and media that you want to delete.

7. Click OK.

Incoming Media (Daily)

Media that is transferred from an Interplay Transfer server or captured by an AirSpeed creates an asset under the Incoming Media Files. The folder is sub-divided by the name of the workspace that the media was transferred to or captured to. See "Folders Used by AirSpeed and CaptureManager" on page 50 and "Folders Used by Interplay Transfer Checkins" on page 55.

This area should be maintained and entries should be cleaned out. Filter each workspace and delete the material for the day that was deleted in the previous procedures.

Sent to Playback (Daily)

The Sent to Playback folder is the area where sequences get created when you push to playback devices (AirSpeeds). It is structured by weeks and then by the days within the week. See "Folders Used by Send to Playback Operations" on page 55.

Delete the day corresponding to the 1Monday project deleted in the previous examples.

You can also use a Search to identify the files for deletion. The following procedure searches the Send to Playback folder for assets whose media status is offline and that were created before a particular date. In this case the files are offline because we deleted the media when we deleted the assets in the Projects folder.

To delete using search results:

1. Open a search and select the Send to Playback folder.

2. Perform an extended search for Media Status is offline and Creation date is before a specified date.

3. Delete the search results.

   The following illustration shows the Interplay Access search dialog.
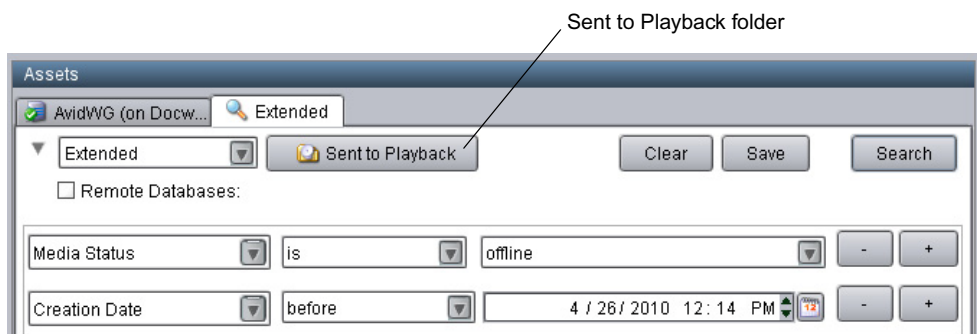
Avid Instinct Assets (Daily)

Search or navigate to each Instinct project under the Projects folder and delete story folders and sequences.

When you save a story in Instinct, the story sequence gets checked in to Interplay in a path that mimics the location of the story in iNEWS.

Avid Instinct cannot adhere to a Day-of-the-Week structure.

The following illustration shows a typical Instinct structure under the Projects folder.
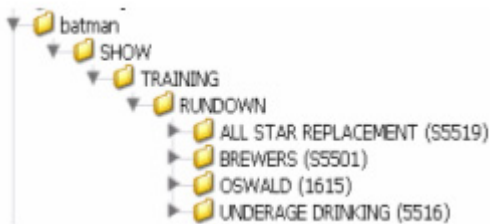
Elements in the graphic are explained as follows:

- Server Name - Named after the iNEWS servers (in this Example-Batman)
- Show - iNEWS Show folder
- Rundown - NEWS queue - story name
- The story name contains the sequence which is also named after the story

Orphan Clips (Weekly)

If you delete a master clip from all of the Interplay folders and do not delete the associated media, the system automatically moves the last copy of the asset to the Orphan Clips folder. To delete these objects and their associated media and free up the disk space, you must delete them from the Orphan Clips folder.

Beginning with Interplay Access v2.4, the Orphan Clips folder also contains links for assets deleted from Interplay folders whose media files were deleted. This change enables an Interplay administrator to schedule the most load-demanding part of deletion operations during times of low activity. For more information, see the Interplay Engine and Interplay Archive Engine Administration Guide.

Even though all of the master clips associated with a media file are deleted from the Interplay folders, the Interplay folders can still contain sequences that use the media. You can use the "In Use" or "Not in Use" search criteria to determine whether the clips in the Orphan Clips folder

are used by any sequences. Then you can decide whether you want to delete the master clips and media or move the associated clips out of the Orphan Clips folder to the folders that contain the sequences. See "Example: Orphan Clips Deletion" on page 74.

Some workflows may involve deleting master clips when they are no longer needed and later deleting the media from the Orphan Clips folder. In order to delete all instances of a master clip, including those referenced by sequences, you must turn on the view of Referenced Assets in Interplay Access. See "Example: Orphan Clips Deletion" on page 74.

> *Starting with Interplay v2.3, you cannot delete a referenced asset unless you also delete the asset that references it. For more information, see the "Deleting Assets" chapter of the* Avid Interplay Access User's Guide.

Un-Checked In Avid Assets (Weekly)

This folder serves as a temporary folder for assets associated with newly created media. Applications such as the Avid editing applications or CaptureManager automatically check newly created media into this folder. For example, when you capture video, consolidate, transcode, or render effects in your bin, the Avid editing application automatically checks the asset into the Un-Checked In Avid Assets folder. When you check in the bin or drag the assets to the Interplay Window, the Interplay Engine moves the assets to the corresponding folders.

Administrators see a folder for each user; users see only their own folder. If editors always check in bins when they close them, this folder should be easy to maintain. Be careful of deleting assets and associated media from this folder because if an editor forgot to check in a bin, you might delete media such as rendered effects that the editor recently created.

To delete using search results:

1. Open a search and select the Unchecked in Avid Assets folder.

2. Perform an extended search for "Creation date is" before a specified date.

3. Delete the search results.

   For additional information on extended searches, see "Searching for Media" on page 84.

Deleted Items (Weekly)

The Deleted Items folder serves as a recycle bin for non-Avid assets such as graphics files and Microsoft word documents. You can restore deleted items from this folder. When an administrator deletes files from this folder, the files are permanently deleted. The folder is created the first time you delete non-Avid assets from the Interplay database.

The Deleted Items folder for a non-Administrator shows only the items deleted by the user who is logged in, while the Administrator sees all items deleted by all users. The following illustration shows the Deleted items folder.
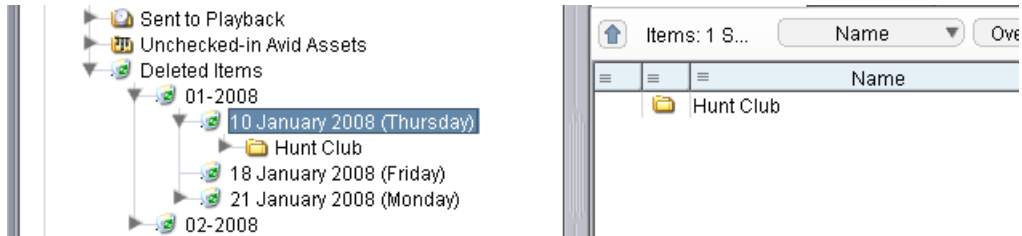
Avid Editing Application Maintenance

After you clean up the Interplay folder structure, you should also delete the corresponding projects and bins used by the Avid editing applications. These projects and bins reside locally on the Avid editing systems and you have to clean them up on each editor. The files exist independently of the Interplay database.

This procedure ensures the following:

- Prevents the editor from opening projects and bins that contain clips and sequences that have been deleted from Interplay. If they are re-opened, and the metadata gets checked in again, you will have to repeat the deletion procedures through Interplay.

- Prevents projects from becoming corrupted by regularly replacing the project folders with fresh folders.

- Clears out the old tape names that build up in the project every time a tape is put in to a deck on the editing system.

> *Depending on your workflow you may find it more convenient to delete the projects on the editor systems before you delete the corresponding assets and Media from Interplay Access. This avoids the possibility of editors re-opening the projects and checking in material after it has been deleted from Interplay.*

Deleting the Project Files

This section describes how to replace a project file folder with a clean template. If you aren't using templates, you can just delete the project file and create a new project in the Avid editing application.

To delete projects when using the 01Monday – 07Sunday workflow:

1. Open My Computer on the Avid editing system.

2. In the Network Drives section, locate the workspace that contains the Project Templates folder and open the folder.

3. Locate the day of the week you are going to delete and replace, right-click the folder and select Copy.

4. Navigate to the Project folder that you want to replace.

5. Select the folder that you want to delete and press the Delete key

6. Perform a right click-Paste and paste in the new project template.

Cleaning Up the Attic

This section describes how to delete files from the Avid Attic on the local Avid editing system.

To clean up the Attic:

1. Navigate to the following location on the Avid editing application system:

   C:\Program Files\Avid\<application name>\Avid Attic

2. Sort by creation date.

3. Delete projects no longer needed.

Example: Orphan Clips Deletion

This deletion strategy involves deleting only metadata from the various Interplay Access folders (such as Projects, Incoming Media, and Catalog folders) and then regularly deleting metadata and media from the Orphan Clips folder. It is most useful at sites where users regularly copy assets between Interplay folders. It avoids the problems of deleting the media associated with a clip that someone else might be using. Using reservations can also avoid this problem but depending on your site's workflow, you might find that this provides an additional security step before media is fully deleted.

You can have several copies of an asset that all reference the same media file. If you delete the last reference to the asset and do not also delete the associated media files, the system moves the last reference to the Orphan Clips folder.

The following examples show the deletion of two clips. The underwater clip is used in a sequence and the burning sky 2 clip is not used in any sequence.

> 📑 *Starting with Interplay v2.3, you cannot delete a referenced asset unless you also delete the asset the references it. For more information, see the "Deleting Assets" chapter of the* Avid Interplay Access User's Guide.

> 📑 *Beginning with Interplay Access v2.4, the Orphan Clips folder contains links for assets deleted from Interplay folders whose media files were also deleted. This change enables an Interplay administrator to schedule the most load-demanding part of deletion operations during times of low activity. For more information, see the* Interplay Engine and Interplay Archive Engine Administration Guide.

To delete metadata only:

1. Make sure that Referenced Assets are displayed in Interplay Access. This is necessary so that you can see all of the master clips that are referenced by sequences in your Interplay folders. If you don't have Referenced Assets displayed you will only see master clips that you explicitly check in or copy to Interplay folders. Do the following to turn on Referenced Assets:

   a. Select Preferences > Options. The Options dialog box opens.

   b. Click the Filter Settings tab.

   c. Make sure that the Referenced Assets check box is selected. Then click OK.

2. When you delete assets from the various Interplay database folders, delete the metadata but do not delete media.

   The following illustration shows two assets in the Dailies folder. Both of these assets are the last assets associated with the media. One asset (underwater) is used in several sequences. The other is not used in any sequence.
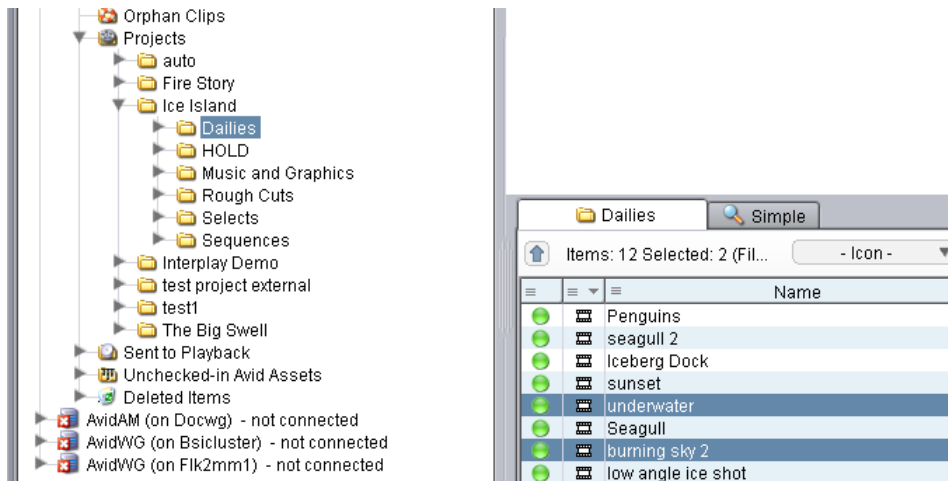
3. Right-click the assets and select Delete.

4. In the Delete dialog box, select the metadata but do not select the media.

The following illustration shows the Delete dialog box for this operation.
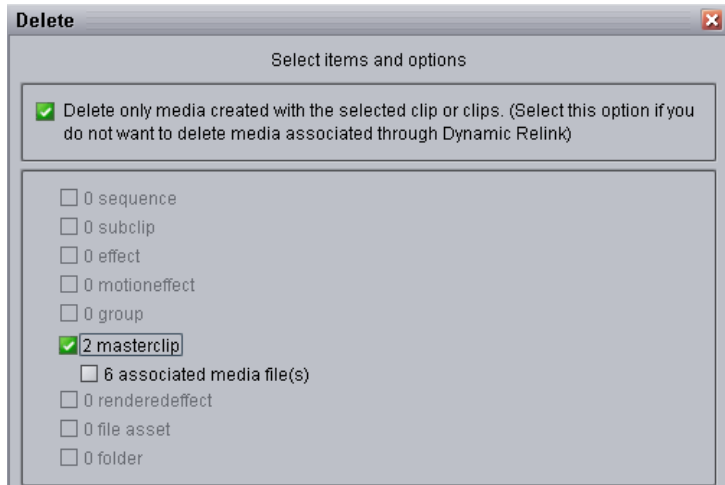
5. Perform additional metadata deletions as your workflow requires. For example, delete from the folders as described in "Example: Deletion for Day-of-the-Week Workflow" on page 66.

To delete metadata and media from the Orphan Clips folder:

1. When you are ready to delete the media files, open the Orphan Clips folder.

By default, only administrators can view this folder. An Administrator can assign read/write/delete permissions for this folder to users or groups using the Managing Database Roles view in the Interplay Administration tool.

The two assets deleted earlier are now in the Orphan Clips folder. Since the two assets were the last copies associated with their media files, they were both moved to the Orphan Clips folder.
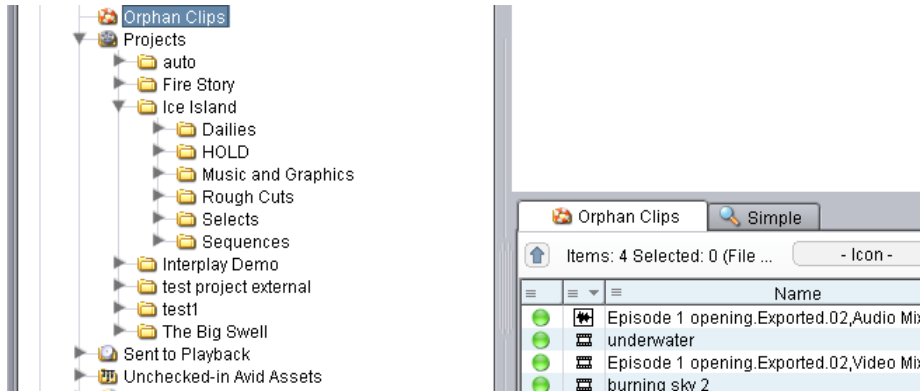
2. (Option) Place reservations on any folders that you know you do not want media to be deleted from. For example, place a reservation on the Unchecked-in Avid Assets to protect any media files that editors have created but have not yet checked in.

📖 *The system protects the media associated with sequences and subclips that are in reserved folders. The protection remains in effect even if you move the master clips to an unreserved folder. See "Using Reservations" on page 80.*

3. To make sure that you display all referenced assets in the Orphan Clips folder, do the following:

   a. Select Preferences > Options. The Options dialog box opens.

   b. Click the Filter Settings tab.

   c. Make sure that the Referenced Assets check box is selected. Then click OK.

4. Select all the clips in the Orphan Clips folder, right click one of the clips and select Update Status from Media Indexer.

   The following illustration shows the Update Status from Media Indexer command.
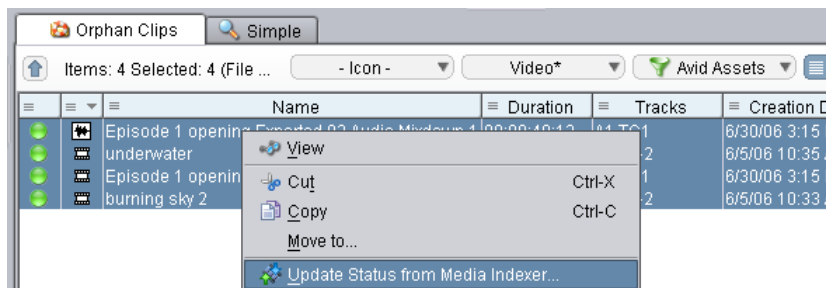
⚠️ **Updating the status is a critical step for Interplay v1.2.3 and earlier releases. This guarantees that Interplay Access has the latest information on the files before you perform the deletion.**

5. Create an Extended search that searches the Orphan Clips folder for files that are "not in use." The following illustration shows the Search and the results.
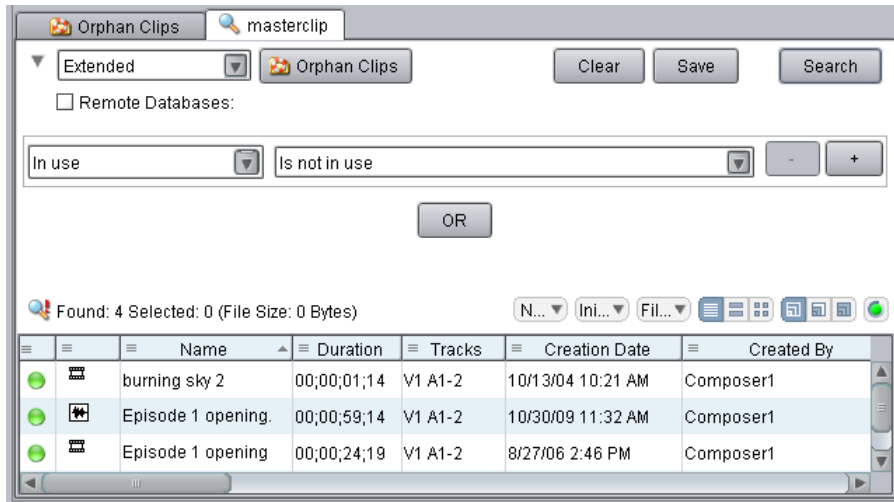
The burning sky 2 asset appears in the search results but the underwater clip is not in the list. The underwater clip is part of a sequence and so it is "in use."

6. Select all of the assets in the search results window and delete them. Delete the metadata and the media as shown in the following illustration.
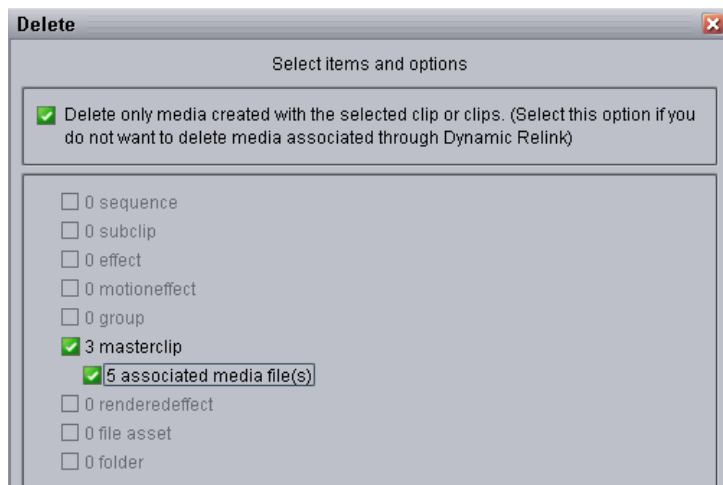
To check for relatives of clips in the Orphan Clips folder:

1. Open the Orphan Clips folder.

2. Select the clip and click the Relatives tab in the Object Inspector.

   The following illustration shows that the underwater clip is referenced by several sequences. That is why it did not appear in the search results for the "not in use" search.
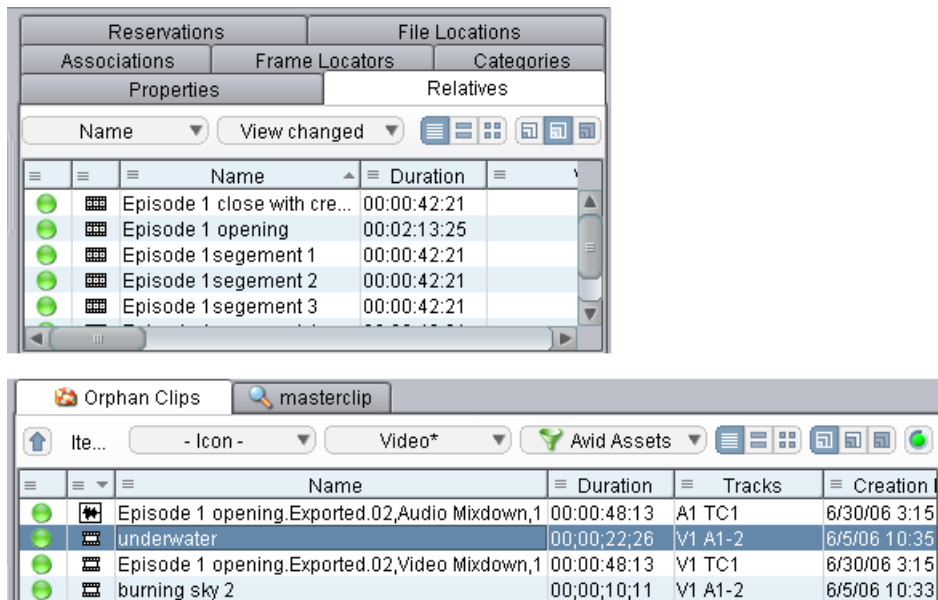
Deletion Guidelines

In general, avoid the following:

- Deleting material from the Avid MediaFiles folders on the workspace itself.

- Using the Media Tool on Avid shared storage workspaces for searching or deleting.

- Deleting workspaces without first deleting Avid Interplay assets and media files from the workspace. Avid ISIS will not let you delete a workspace with any files on it (whether the files are media or any other type of file, even hidden files). Use the following procedure to delete a workspace:

  - Perform an extended search in Access, using the workspace name as a search criteria. For search examples, see .

  - Use Interplay Access to delete the files on the workspace.

  - Use the ISIS Administration tool to delete the workspace.

📄 *In order to perform an extended search on a workspace, your Interplay Access login must also have a corresponding login in Avid ISIS. To delete from the workspace, the login must also have delete rights on Avid shared storage.*

The following sections provide additional information:

• Using Reservations

• Do Not Perform Large Deletions During Prime Time

• Do Not Delete More Than 2,000 Assets at a Time

• Folder Limitations

• Deleting By Workspace

• Perform Deletions from One Access Client

• Guideline for Number of Deletions Per Hour

• Priorities with Deletion

• Delete Sequences When Possible

• Amount of Space Freed Up by Deletion

Using Reservations

Reservations are an excellent method for protecting media and metadata from deletion. Reservations work on folders, not on individual assets. So, to protect an asset from deletion it must be in a reserved folder.

A special case is that sequences and subclips in reserved folders protect the media files of referenced master clips, even if the master clips are in a non-reserved folder. For example, Sequence A uses Clip 1, and both are in a reserved folder. If you move Clip 1 to a non-reserved folder, and try to delete the master clip and media associated with Clip 1, you can delete the master clip, but the media remains protected. If the master clip is the last link to the media, the link is moved to the Orphan Clips folder and the master clip and media remain protected.

Use the following guidelines when using reservations:

• Do not reserve the top level folders with an expiration date of "never." This protects all of the assets in the top level folder and all subfolders. This effectively prevents you from deleting any assets in those folders.

• Reserve special items such as templates, frequently used graphics, and station logos that are used on a daily basis with "never."

• Reserve only folders that need to be reserved, especially when auto-reservation is on. By default, auto-reservation extends the reservation for an additional 24 hours from the time that a new or modified Avid asset is checked in from an Avid editing application.

For details on deleting files as well as information on using reservations to protect media from deletion, see the *Interplay Access User's Guide*.

Do Not Perform Large Deletions During Prime Time

Perform deletions during times when the system is not heavily used. A large delete operation can slow down the response time on the Avid Interplay Engine. This also slows down the response times on Avid editing applications that are working with the Interplay Window.

Deletion consists of three parts: deletion of links, deletion of media, and deletion of database assets.

- In Interplay v2.3 and earlier, deletion was *synchronous*: links, media, and database assets were all deleted at approximately the same time. Disadvantages to synchronous deletion were the impact on the engine (particularly the database assets) and the length of time required for the deletion to take place. Starting with Interplay Engine v2.4, deletion is *asynchronous*: the deletion of database assets is disassociated from deletion of links and media and can be scheduled for off hours. This reduces the performance impact of the initial deletion. For more information, see "Setting Options for Deletion" in the *Avid Interplay Engine and Avid Archive Engine Administration Guide*.

- Deletion of media impacts Media Indexer performance. For each file that the Interplay Engine deletes on the share storage system, a notification is sent to the Media Indexer. These notifications cause the Media Indexer to update its internal tables.

  You can set an option to prevent Media Indexer from sending these notifications, but this option ("ignore delete notifications") should only be used temporarily. Using this option causes a delay in updating of the media status of assets, which can cause workflow problem, particularly for archive and restore. For more information, see "Configuring Avid Interplay Media Indexers" in the *Avid Interplay Best Practices Guide*.

Do Not Delete More Than 2,000 Assets at a Time

Earlier versions of Interplay documentation recommended deleting up to 2,000 assets at a time. With the introduction of scheduled deletion, this recommendation is less critical **unless you are deleting media**. If you delete media (with or without its corresponding assets), wait at least 5 minutes in between deletions to give the Media Indexer time to update its structure.

Folder Limitations

It is important that you do not store more than 20,000 assets in Interplay database folders. In general, you can keep up to 5,000 assets in a folder without affecting system performance. One of the problems with storing many assets in a folder is the amount of time it takes to list the items in the folder when you open the folder for browsing.

Periodically check that folders do not contain more than 5,000 assets. Delete or move assets to other folders. If a folder must contain a large number of assets it is more efficient to add multiple subfolders for storing the assets.

This limitation also applies to capture folders. If you know that you will have recurring captures, you could set up folders for those captures. For example, you could name folders for the days of the week or for specific types of capture.

Deleting By Workspace

Starting at Interplay v1.5, the Delete dialog box includes an option to select which workspace you want to delete media from. If you select media files and resolutions for deletion, all workspaces that contain the selected media are listed and are selected by default.

Perform Deletions from One Access Client

Media management and large deletions should only be executed from one Interplay Access client. If you start several clients on different machines and perform large deletions on each, it is actually much slower compared with doing all the deletions on one client in a serialized order.

Guideline for Number of Deletions Per Hour

A scheduled deletion on the Interplay Engine can delete at least 25,000 objects per hour and possibly more. This guideline can be useful when determining the length of a scheduled deletion window.

Priorities with Deletion

- By default, a scheduled deletion stops when an Interplay backup begins, and resumes when the backup ends or at the next scheduled deletion. You can select an option in the Delete Behavior dialog box to allow both processes to operate at the same time.

- Ingest operations are not impacted by scheduled deletions because scheduled deletion has a lower priority.

Delete Sequences When Possible

If possible workflows should include deletion of sequences and their referenced assets. By default you cannot delete referenced assets unless you delete the asset that references them. However, you can overwrite this behavior. See "Activating the Option to Delete Referenced Assets" in the *Avid Interplay Engine and Avid Interplay Archive Engine Administration Guide*.

Amount of Space Freed Up by Deletion

The Delete dialog in Interplay Access provides the most reliable measurement of the space that will be freed up by a Delete operation. Performing a search in Interplay Access is not a reliable measurement. For more information, see the next topic.For more information, see "Determining

Determining How Much Space a Delete Operation Will Free Up

The Delete dialog in Interplay Access provides the most reliable measurement of the space that will be freed up by a Delete operation.

To determine how much space will be freed up by a deletion:

1. Make sure that Referenced Assets are displayed in Interplay Access. This is necessary so that you can see all of the master clips that are referenced by sequences in your Interplay folders. If you don't have Referenced Assets displayed you will only see master clips that you explicitly check in or copy to Interplay folders. Do the following to turn on Referenced Assets:

   a. Select Preferences > Options. The Options dialog box opens.

   b. Click the Filter Settings tab.

   c. Make sure that the Referenced Assets check box is selected. Then click OK.

2. Right-click the folder you want to delete and select Delete.

   The Delete dialog box opens and shows how many assets and media files will be deleted.

3. The value in the center of the dialog box shows the disk space that will be freed up if you perform the deletion.

   The number of media files and the amount of disk space that will be freed up are only affected by the option "Delete only media created with the selected clip or clips." This information is not affected by your selections in the Media Resolutions or Media Workspace sections of the dialog box.

4. Click Select All to select all the assets, files, and resolutions. The center portion of the dialog box shows how much free space you will gain from the Delete operation.

The amount of disk space that will be freed by the deletion
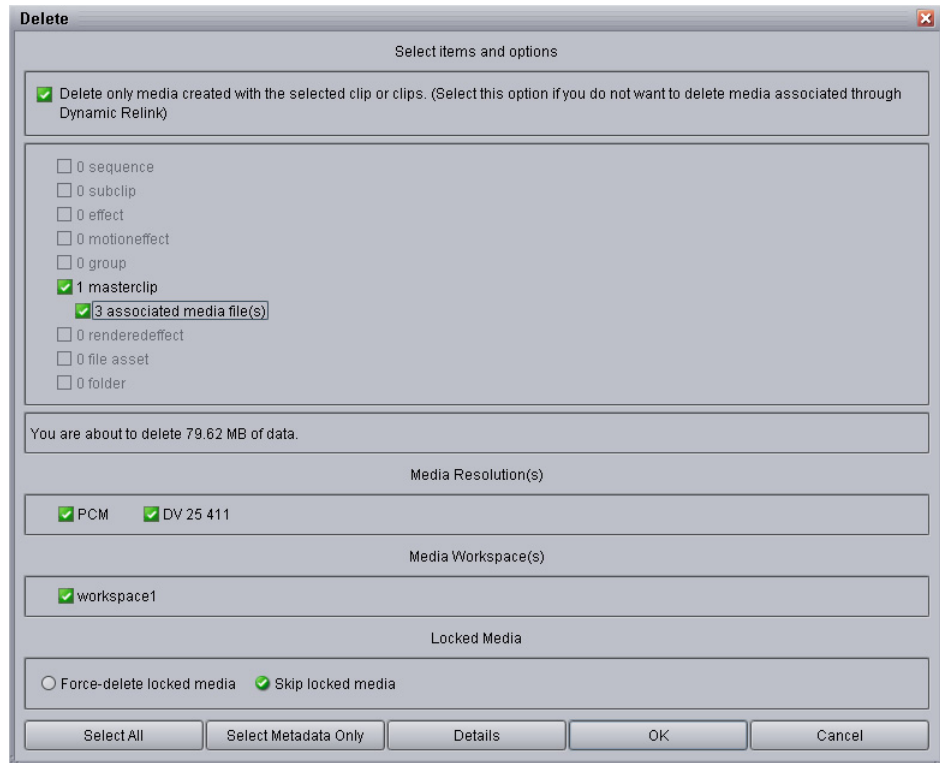
5. Click OK or Cancel, depending on whether you want to perform the deletion or whether you were just checking on the disk space.

Searching for Media

Interplay Access can search across all projects and bins in the Interplay environment. This makes it much faster to search in Access than to open multiple Projects and Bins in the editing application. There are two types of searches:

- A simple text-based search allows you to filter media by name, project, bin, time, and media type

- An extended attribute-based search allows you to search by more detailed attributes and provides operator based searching using "and" and "or" type searches

Saved Searches

Searches can be saved and made public (available to all users) or private by clicking on the Save button.

Depending on the site, the entire deletion strategy can be based on searching. Below are some common examples of saved searches used in such environments.

- An Offline Material search returns anything that has been deleted from ISIS, but not Interplay

- An Orphaned Precomputes search returns any effects that are not part of a sequence

- An Unused AirSpeed Clips search returns any master clips from the Incoming Media folder that are not cut into sequences or subclips

- A DRM Clips search returns all master clips/subclips/sequences that contain restrictions.

For examples of searches that could be saved, see "Examples: Using Search with Delete" on page 85.

Improving Search Response Time

Avid Interplay includes powerful, customizable search capabilities. If you are working in a facility with a large database, you can speed up the search process by specifying a particular folder as the search root and by using attributes. For example, by using the Time attribute, you can limit your search to clips modified within the last 24 hours, the last 7 days, and other time periods.

Even if you only change the search root, or search by a single attribute, you can dramatically improve the response time. For additional information, see "Using the Search Root and Attributes to Speed Up Interplay Search" on page 106.

Examples: Using Search with Delete

You can use an Extended search to create a list of assets that match your criteria for deleting. This topic provides several examples.

Example 1

This first example uses the following criteria:

- Find clips without an active reservation. The Search syntax is:

  Reserved : by anyone : is expired

- Find clips that are not shared (only one instance, no links in other folders). The Search syntax is:

  Find clips : unshared

- Find clips that have no relatives. The Search syntax is:

  In use : Is not in use

The following illustration shows these criteria in the Extended search tab.
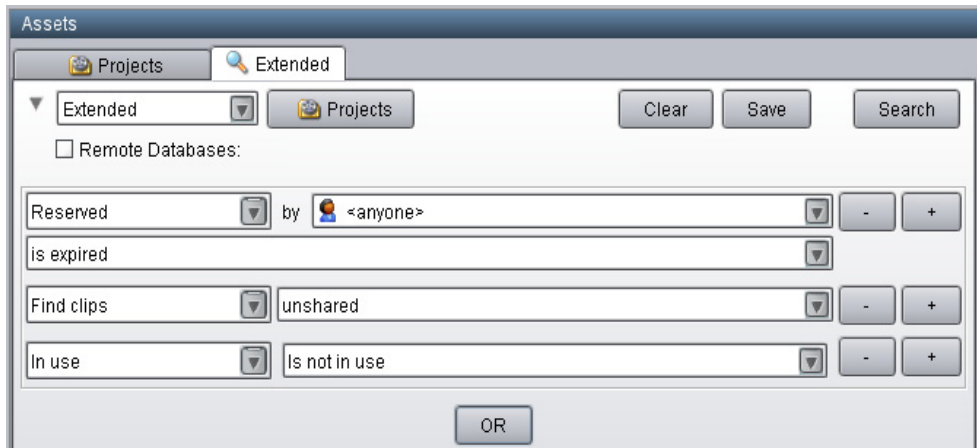
After you run this search, you can delete the results from the Search Results list.

Example 2

You can associate the criteria used in Example 1 with specific folders to include or exclude specific locations in the search. This example adds the following criteria:

• Find clips that are located in a folder whose name contains the word "archived." The Search syntax is:

   Path : contains : archived

• Or find clips that are located in the folder named "To be deleted." The Search syntax is:

   Path : is : To be deleted

You need to create two different groups in the Extended tab: one that combines the criteria in Example 1 with the first path and one that combines the criteria in Example 1 with the second path. These groups are separated by OR, as in the following illustration.

The results of this search are clips that are stored *either* in one of the Archived folders *or* in the "To be deleted" folder. You see the contents of both folders in the Search Results list.

Example 3

This example is similar to Example 2. However, instead of searching for clips stored *either* in one of the Archived folder *or* in the "To be deleted" folder, these criteria search for clips stored *both* in an Archived folder *and* in the "To be deleted" folder. The following illustration shows these criteria in the Extended tab.
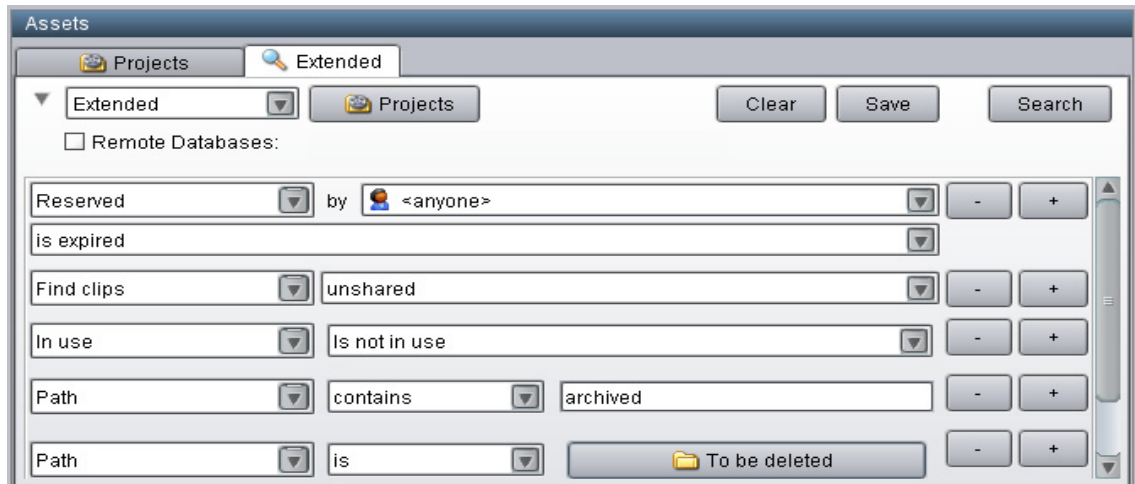
Example 4

Another search might include the following criteria:

- `Creation date : Not within : Last week`
- `Path : contains : archived`
- `Path : is : To be deleted`
- `In use: Is not in use`
- `OR`
- `Creation Date: Not within : last 72 hours`
- `Path : is : Aired stories`
- `Path : is : Incoming feed from Washington`

The first group of criteria searches for all clips older than a week located in the Archived and "To be deleted" folders that have no relatives. The second group searches for clips older than 72 hours located in the "Aired stories" folder and in the "Incoming feed from Washington" folder. The results are a combination of these searches.

Example: Searching for Unused Rendered Effects

When you design a deletion strategy, usually the precomputes (rendered effects) are deleted along with the usual deletion searches because they are based on creation date and project. Anything inside a project that is older than a certain number of days is deleted, and that usually takes care of the rendered effects as well.

The Unchecked in Avid Assets folders may contain a large number of precomputes, particularly for sequences that have been rendered several times. These rendered effects might not be found by simply searching by project and date. Note that editors can see their own Interplay assets but only administrators can view all of assets inside the Unchecked in Avid Assets folders.

This section describes a search that is not based on projects. The example deletes unrendered effects in a particular folder that are not in use by any sequence. For more information, see

📄 *Starting with Interplay version 2.3, links for rendered effects are no longer included in the Interplay database. These links are still displayed in Interplay Access and other client applications, and to the end user they appear like other referenced assets. For more information, see "Emulated Rendered Effects" in the* Avid Interplay Access User's Guide.

This example searches for rendered effects created within the last 24 hours in a particular folder named "Unrendered effects test bin." The following illustration shows the Search window in Interplay Access.
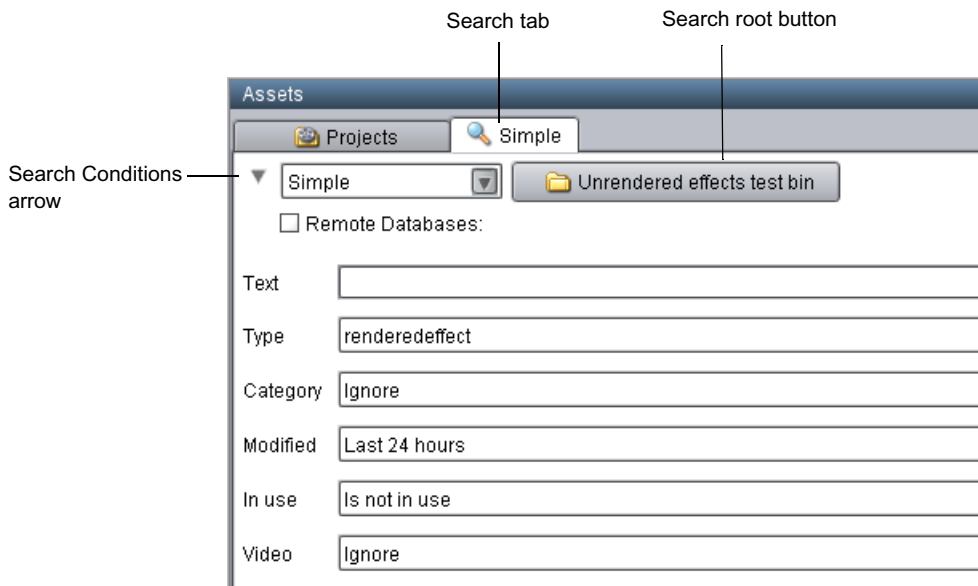
📄 *Only use the "in use" flag example for Interplay v1.2.3 and later. Older Interplay versions did not set the in use flag correctly.*

To search for unrendered effects in a particular folder:

1. In the Assets pane, click a Search tab.

2. Select Simple from the Search Type list. If necessary, click the Search Conditions arrow to show the search criteria.

3. Click the Search Root button and navigate to the folder.

   The Search root button displays the folder you selected to search. Selecting a particular folder will make the search faster.

4. In the Type field, click the down arrow and select "rendered effect."

5. In the Modified field, click the down arrow and select the time period.

6. In the "In use" field, click the down arrow and select "Is not in use."

7. Do one of the following:

   ▶ Press Enter.

   ▶ Click the Search button.

      The Search button changes to a Stop button, which you can click if you want to stop the search. The Interplay search engine limits the database to rendered effects that have been modified in the time period you selected, and then searches within that subset for rendered effects that are not in use. The results are displayed in the Search Results pane. They are visible until you close Avid Interplay Access or until you perform a new search.
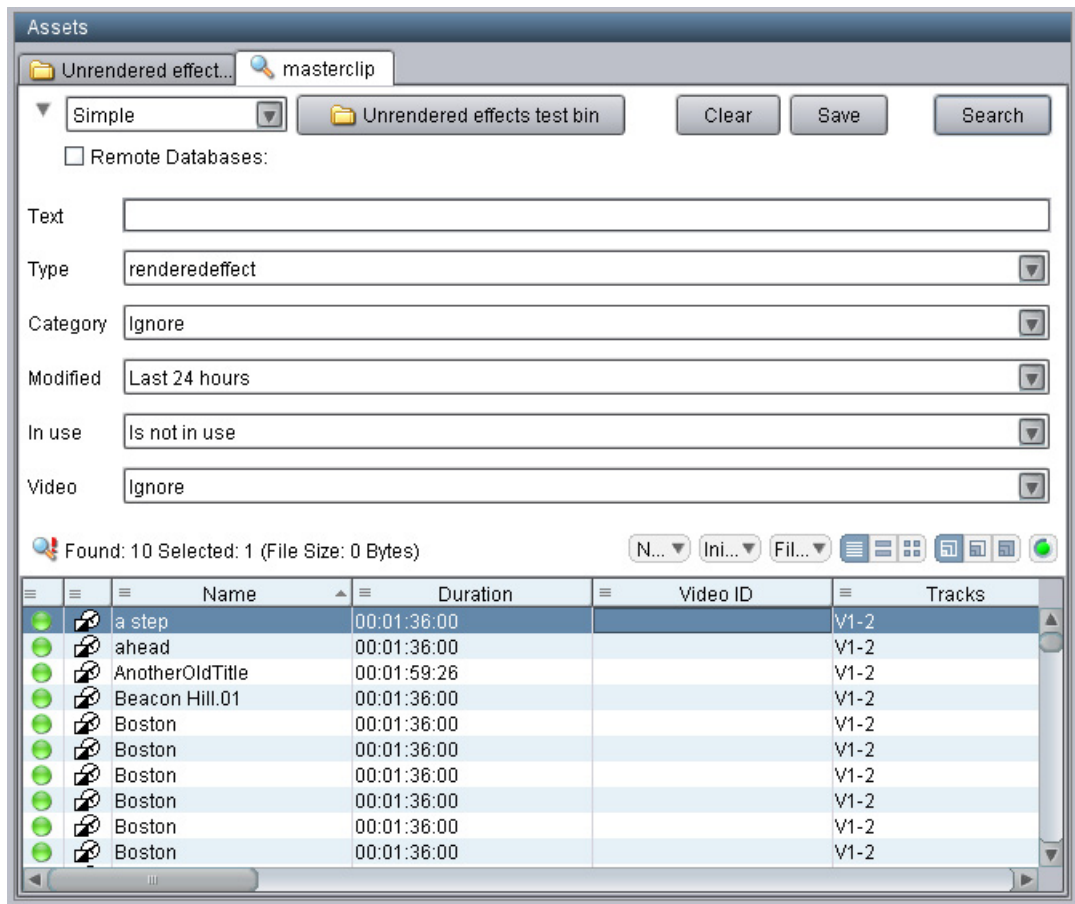
To delete the unused rendered effects:

1. Click in the Results pane and use CTRL-A to select all of the rendered effects.

2. Press the Delete key.

   The system displays the Delete dialog box and allows you to delete the metadata, the media, or both. The following illustration shows the Delete dialog box for this example.

Delete ✖

Select items and options

☑ Delete only media created with the selected clip or clips. (Select this option if you do not want to delete media associated through Dynamic Relink)

☐ 0 sequence
☐ 0 subclip
☐ 0 effect
☐ 0 motioneffect
☐ 0 group
☐ 0 masterclip
☑ 10 renderedeffect
☑ 10 associated media file(s)
☐ 0 file asset
☐ 0 folder

You are about to delete 79.62 MB of data.

Media Resolution(s)

☑ PCM   ☑ DV 25 411

Media Workspace(s)

☑ workspace1

Locked Media

○ Force-delete locked media   ⊘ Skip locked media

| Select All | Select Metadata Only | Details | OK | Cancel |

3. Select the rendered effects (metadata) and the Media Resolutions (media files).

4. Click OK.

4 Determining Interplay Database Scalability

This document describes how to use the size of the Interplay Engine database and the amount of available RAM to make decisions about how much larger your database can grow while maintaining your current workflow and hardware. This document contains the following topics:

- Definition of Terms
- Total Used Database Pages and Estimated Database Page Limit
- Comparing Database Page Count and Cache Size
- Tips for Improving Database Performance

Definition of Terms

Database Page

A *database page* is a fixed size, contiguous block of data that contains persisted database content. The metric of *total used database pages* provides a consistent way to determine whether you are operating within the scalability limits of your system. For additional information, see "Total Used Database Pages and Estimated Database Page Limit" on page 95.

Maximum Cache Size

The *maximum cache size* refers to the maximum number of database pages the Interplay Engine can keep cached in RAM. This value is dependent on the amount of RAM available on the Interplay Engine system or by manual configuration (in the case of the Interplay Bundle).

If the database size exceeds the maximum cache size, the Interplay Engine may need to swap out pages whenever it needs to load new database pages into RAM. The probability of swapping pages increases as you continue to exceed the maximum cache size. Slow downs can occur when you perform large searches, deletions, or add a large number of new assets to the database.

Database Object

A *database object* contains the metadata that defines an asset in the Interplay database. One database object can reference many other objects. For example, a sequence is represented as a database object and each sequence references other database objects such as master clips and audio tracks.

The number of database objects that an Interplay environment can support is highly dependent on the workflow at a particular site. The following areas can be affected by the workflow:

*   *Highly linked objects*: For example, if your workflow involves adding one short introductory clip to the beginning of every sequence, that clip might be associated with hundreds of database objects. See "Tips for Improving Database Performance" on page 100.

*   *Dependency complexity*: For example, if you have a complex sequence with many rendered effects, master clips, subclips, and locators, the database object representing the sequence can be complex. Different versions of the sequence and multiple resolutions associated with master clips also adds complexity.

*   *Object size*: Depends on the type of object and the number of (custom) properties associated with the object. For example, if you store a large amount of text within locators this can contribute to the size of the object.

For additional information, see "Establish a Stable Ratio Between Database Objects and Database Pages" on page 101.

File Count Limit

The *file count limit* is the maximum number of media files that the Interplay Media Indexer can index on ISIS shared storage. See the Interplay ReadMe for the current file count limit.

The Interplay Engine uses the filemob object to keep track of the media files that are checked into the Interplay database. However, the Media Indexer may be monitoring a much larger number of media files than the ones that are checked in. For example, there may be five different resolutions for a master clip but possibly only two are checked in.

Total Used Database Pages and Estimated Database Page Limit

The metric of *total used database pages* provides a consistent way to determine whether you are operating within the scalability limits of your system. A *database page* is a fixed size, contiguous block of data that contains persisted database content. To maintain an acceptable level of performance, the total number of used database pages should not exceed the recommended database page limit for your system. Recommended values are listed in the "Interplay Engine Database Page Limits" on page 96.

For Interplay v2.6 and higher, you can view the total number of database pages in use in the Database Information view of the Interplay Administration tool. See "Comparing Database Page Count and Cache Size" on page 97. The same information is available (for all releases) in the log file named NXNServer_<*date*>.log in the following directory:

C:\Program Files\Avid\Avid Interplay Engine\Logs\Machines\<*machine name*>

In the NXN log file, search for the text string "AvidWG pages total" for Interplay Engines and search for "AvidAM pages total" for Archive Engines.

The *estimated database page limit* is the maximum amount of pages the Interplay Engine can keep cached in RAM (maximum cache size) plus an estimated permissible percentage of overusage.

This "overusage" is possible because all databases contain data that is never or very seldom accessed and because a low frequency of swapping cached pages does not have a perceptible performance impact. The permissible overusage value is typically 20% of the size of the cache. The values for different hardware configurations are estimated by extracting cache usage data from customer databases and by performing internal testing with databases that are slightly larger than recommended.

The permissible overusage depends on the customer's workflows and might exceed or be lower than the estimated 20%. Therefore it is important that you closely monitor the performance of the Interplay Engine once the total used database pages exceed the Maximum Cache size.

If the total used pages exceeds the recommended limit for your system, performance may degrade and slow downs may occur. In this case, do one of the following:

- Delete assets in the Interplay database to bring the total number of pages down below the recommended limit for your system.

- Increase the amount of RAM or move to a more powerful system as shown in the table under "Interplay Engine Database Page Limits" on page 96.

Interplay Engine Database Page Limits

This section lists the maximum cache size and the estimated database page limits supported by an Interplay Engine running on an Intel SR2500 or AS3000 server for Interplay v2.4 or higher. Values are the same for standalone engines and cluster systems.

The table also shows values for the Interplay Bundle. An Interplay Bundle consists of an Interplay Engine, Media Indexer, and Lookup Service running on the same system. A configurator script is run on the system to limit the memory requirements of the Interplay Engine and the Media Indexer.

System	RAM	Operating System	Maximum Cache Size	Estimated Database Page Limit[a]
Standalone Interplay Engine and Interplay Engine Cluster				
SR2500	4 GB	W2K3 R2	500,000	600,000
	12 GB	W2K3 R2 Enterprise	1.8 million	2.2 million
AS3000	12 GB	W2K8 R2 W2K3 R2 Enterprise	1.8 million	2.2 million
	36 GB[b]	W2K8 R2 Enterprise	7.0 million	8.4 million
Interplay Bundle Configurations				
SR2500	4 GB	W2K3 R2 (32-bit)	200,000	240,000
	9 GB[c]	W2K3 R2 (64-bit)	1 million	1.2 million
AS3000	12 GB	W2K8 R2 (64-bit)	1.4 million	1.7 million

a. The estimated database page limit is the maximum cache size plus a 20% overusage value.
b. Purchasable option.
c. Not a standard configuration.

Note that for Interplay v2.3 and earlier, the database page limit numbers are lower.

Comparing Database Page Count and Cache Size

The following illustration shows an example of the Database Information view for Interplay v2.6.

The Database and Cache Size parameters are described as follows:

- Configuration Maximum Cache Size: The number of database pages that can be loaded into RAM for this system. This value corresponds directly to the "Maximum Cache Size" column in the tables listed in "Interplay Engine Database Page Limits" on page 96. In this example, the RAM cache can hold 1.8 million pages. This corresponds to an SR2500 or AS3000 with 12 GB of RAM.

- Database Pages Total: The number of pages in this Interplay database. This is the current size of the database.

- Database Pages currently loaded into Cache: The number of database pages currently loaded into RAM. In this example, the database contains 1,003,618 pages and 824,397 of those pages are loaded into RAM.

- • The fourth entry in the display differs depending on whether you are using Interplay v2.6 or v2.7 and higher:

  - - Interplay v2.7: Database Load Factor. Shows the percentage of the database that is currently loaded into RAM. On a completely loaded database the ratio would be 100%, but since some pages of a database are never loaded, it will always stay below 100%. If the operations/workflows executed against this database do not require the whole database to be loaded into cache, this ratio will stay farther below 100%.

    This number can be used to judge the "warmness" of a database (whether the database is fully operational). For example, the value may steadily increase after starting up the Interplay Engine after a maintenance window.
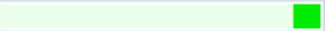
    Note that if the "Total pages used compared to Maximum Cache Size" of the database exceeds 100%, then the load factor can never reach 100%. The bigger the database grows over the maximum cache size, the less database pages can be loaded into the cache.

  - - Interplay v2.6: Cache Utilization. Shows a graphical representation of how much RAM you are currently using. As the number of cached pages gets very close to the maximum cache size, performance degrades during times when large database activities occur. The slow downs occur because the Interplay Engine must swap pages in and out of RAM in order to make room for the new information

    This value cannot be larger than 100% because the amount of RAM is fixed. Note that when you get close to 100% the Interplay Engine automatically starts releasing pages to allow for new requests. If you reach 100%, the Interplay Engine runs out of memory and you will see a corresponding error in the NXNserver.log file.

- • Total pages used compared to Maximum Cache Size: Shows a graphical representation of how close the current database size (total pages used) is to the maximum cache size. This graphs shows whether the entire database can fit into RAM.

  This value can be larger than 100% because it is possible for your database to be larger than the number of pages that can be loaded into RAM. If that occurs, the excess portion of the graph turns red as shown in the following illustration.

Database Load Factor	8.7 %	
Total pages used compared to Maximum Cache Size	139.4 %	

The value can be up to 120% without causing performance problems. Recall that the recommended database page limit is the maximum cache size plus 20%. See "Interplay Engine Database Page Limits" on page 96. If the total number of database pages exceeds 120%, performance slowdown can be dramatic (exponential). In this case you should either delete assets to reduce the size of your database or increase the cache size by adding RAM or moving to a more powerful system.

As mentioned earlier, the permissible overusage depends on the customer's workflows and might exceed or be lower than the estimated 20%. Therefore it is important that you closely monitor the performance of the Interplay Engine once the total used database pages exceed the Maximum Cache size.

Database Activity Information

The following illustration shows the Database Activity parameters at the bottom of the Database Statistics tab.

Database Activity:

Period	Pages Created	Pages Written	Pages Read
Since last Engine start	0	86	53443
In the last 180 second interval	0	0	3064

End of last 180 second interval: 30.05.2012 16:45:53

The page activity counters are accumulated for two different intervals:

• The time interval since the last time the Interplay Engine was started

• The three minute interval that ended at the time displayed at the bottom of the screen. The Interplay Engine collects the information every three minutes and displays the results at the bottom of the screen.

The Database Activity parameters are described as follows:

• Pages created: Gives an indication of how much new information has been added to the database.

• Pages Written: An indication of how much has changed in the database.

• Pages Read: An indication of the requests that have been made of the database. This shows how many pages have been read from disk. After pages are loaded into RAM, this number usually decreases.

At the bottom of the screen the system shows the date and time of the last data collection. Time is measured by the system time of the Interplay Engine.

Tips for Improving Database Performance

The following list provides some tips for improving performance:

- Determine the ratio between the number of objects in your Interplay database and the number of total pages used in the database to understand how the number of objects stored in the database relate to the size of your database. See "Establish a Stable Ratio Between Database Objects and Database Pages" on page 101.

- Reduce the number of highly linked objects.

  For example, a broadcast site may have one high level Projects folder that contains an Intro_clip that is used by all groups at the site. You could consolidate that clip to create several copies and then move the copies into separate folders, one for each group. For example, you could create a Promo_Intro_clip and a News_Intro_Clip, and put those clips in folders that would be accessed by the different groups. Delete the old Intro_clip asset and have the groups start using the new versions. This can dramatically reduce the number of highly linked objects.

- Develop an efficient deletion workflow and only perform large deletions using a custom deletion schedule. For additional information, see the *Interplay Best Practices Guide*.

- Use search criteria to avoid searching the entire database.

  If you only use the simple "Contains" text search option, the Interplay Engine searches the entire database for the asset. To improve search performance, limit the search to a particular folder or use an attribute such as a particular time frame to narrow down the search. Note that for simple text searches the search time increases linearly as your database grows. For example, if the database is twice as large, it can take twice as much time to perform the same simple text search. For additional information, see the *Interplay Best Practices Guide*.

- Keep the number of files per folder on ISIS under 5000. As the number of files in a folder grows, it takes the Media Indexer a longer time to traverse the folder. Traversing a folder with more than 5000 files can result in a performance degradation. Note that this does not affect the Interplay database performance directly but it does affect the performance of the system as a whole.

  Apply this same limitation to the number of assets in a folder in the Interplay database.

Establish a Stable Ratio Between Database Objects and Database Pages

The number of database objects that an Interplay environment can support is dependent on the workflow at a particular site. For additional information, see "Database Object" on page 94.

For a given workflow, the ratio of database objects per total number of database pages remains fairly constant. Stable ratios are often in the range of 0.4 to 1.5 but this can vary depending on your workflow. Calculate the ratio when you feel you have an established workflow. Keep track of the following values:

- Total number of objects in the database
- Total number of database pages in use
- Ratio of objects per total number of pages (*total objects / total database pages*)

If you do this periodically while you maintain a constant workflow, you will start to see a pattern. Once you determine a stable ratio for your current workflow you can start to make predictions about how much you can increase the database size while maintaining the same workflow.

Calculating the Ratio Between Pages and Objects

The method for determining the ratio differs depending on your Interplay version. The following table shows where to locate the data for each version.

Interplay version	Total Objects	Total Database Pages	Ratio
v2.7 and higher	Objects Statistics tab	Database Statistics tab	Automatically calculated and displayed on the Objects Statistics tab
v2.6	Objects Statistics tab	Database Statistics tab	calculate: total objects/total database pages
v2.5 and earlier	Objects Statistics tab	NXNServer_<date>.log file See "Total Used Database Pages and Estimated Database Page Limit" on page 95	calculate: total objects/total database pages

The following section presents an example of how to use the ratio.

Example: Using the Ratio to Plan for Database Growth

The following illustration shows an example database.

The following statistics apply to this database:

- Maximum cache size: For this hardware configuration, the maximum number of database pages that can fit into RAM is 1.8 million. For additional information, see "Interplay Engine Database Page Limits" on page 96.

- Database Pages: The total number of database pages is currently 1,003,618.

- The number of database pages currently loaded into cache (RAM) is 824,397.

- The fourth entry in the list differs depending on whether you are using Interplay v2.6 or v2.7 and higher:

  - Interplay v2.7: Database Load Factor. Shows the percentage of the database that is currently loaded into RAM.

  - Interplay v2.6: Cache Utilization. Shows how much of the cache is currently being used.

- Total pages used compared to Maximum Cache Size: If the complete database (1,003,618 pages) was loaded into cache, it would consume 54.8% of the cache.

According to the final list item, the database can grow by almost 45% and still be within the cache limits. Calculate the number of pages that can be added as follows:

maximum cache size - total database pages = 1,832,771 - 1,003,618 = 829,153

This means that you can add 829,153 database pages and the database should still load into RAM.

Growing the database by a specific number of pages is a relatively abstract concept. The following sections describe how to correlate this information to the more concrete terms of database objects such as master clips and sequences.

📰 *You can add an additional 20% of pages to the database once the number of pages reaches the maximum cache size. This is the "overusage" value described in "Total Used Database Pages and Estimated Database Page Limit" on page 95. The extra 20% is not included in these calculations and you can consider it as an additional buffer.*

Calculating the Objects per Page Ratio

Interplay v2.7 automatically calculates and displays the objects per database page ratio on the Objects Statistics tab. For earlier releases, you can calculate the ratio of database objects to database pages. For information on where to obtain the data, see "Calculating the Ratio Between Pages and Objects" on page 101.

The objects per pate ratio can help determine how much you can grow your database while maintaining the same workflow. When your workflow is stable, the ratio tends to be constant over time. If you change your workflow then you need to calculate a new ratio. The objects per page ratio is calculated as follows:

total number of database objects / total number of database pages

The following illustration shows the Object Statistics tab for this example. The total number of database objects is 2,925,082.

The objects per page ratio in this example is 2,925,082/1003618 = 2.91.

The ratio is 1:2.91. This means that there are approximately 2.91 database objects per database page.

In this example, the database can grow by 45% or roughly 829K database pages. Using a ratio of 1:2.91, that means you can add 2.4 million objects and the database should still be able to load into RAM. (829K x 2.91= 2,412,390)

Using the Ratio with Masterclip Objects

This example takes the calculation one step farther to predict how many additional masterclips can be added to the Interplay database and still keep the database within the cache limits. First calculate the percentage of database objects that includes masterclips:

Masterclip count / total database objects = 276,279/2,925,082 = 0.9 = 9%

In this example, masterclips make up approximately 10% of the total number of database objects.

Since the database can grow by 2.4 million objects, this means that you can add approximately 240K masterclips (10% of 2.4 million).

In summary, you can increase the size of the database by adding 240K masterclips and the database should still be able to load into RAM. If you change the workflow you will need to calculate a new ratio and recalculate the number of masterclips you can add.

5 Refining Your Search in Interplay

Avid Interplay includes a powerful, customizable search. If you are working in a facility with a large database, you can speed up the search process by specifying a particular folder as the search root and by using attributes. For example, by using the Time attribute, you can limit your search to clips modified within the last 24 hours, the last 7 days, and other time periods.

You can search the Interplay database from the following applications:

- Interplay Assist
- Interplay Instinct
- Interplay Window (in Avid editing systems)
- Interplay Access

All applications use the same search engine, which runs on the Interplay Engine server, and all applications share a core set of attributes. Assist, Instinct, and the Interplay Window share the same user interface (the Media Search tab) and the same set of attributes. Interplay Access includes these core attributes, but also offers additional options for an extended search. All applications search for Avid assets (clips, subclips, and other media), but only Interplay Access searches for file assets (such as Adobe Photoshop files).

The following topics provide information about Interplay search in general as well as specific information for Interplay applications:

- Using the Search Root and Attributes to Speed Up Interplay Search
- Basic Interplay Search Attributes
- Searching in Assist, Instinct, and the Interplay Window
- Searching in Access
- Example: Finding Assets By Using a Unique Identifier

📖 *Specifying attributes for a search is also one approach to a deletion strategy. For more information and examples, see "Examples: Using Search with Delete" in the Interplay Access User's Guide.*

Using the Search Root and Attributes to Speed Up Interplay Search

To speed up your search, make your search as specific as possible. The more specific you can make your search, the faster you can get the results you want. Two ways to make your search more specific are:

• Specifying a search root

• Using attributes

Keep in mind that even if you only change the search root, or search by a single attribute, you can dramatically improve the response time.

Specifying a Search Root

By specifying a particular folder as the search root, you are instructing the search engine to limit the set of assets that it searches to that particular folder and any folders included in that folder's subtree. By default, the search root is the entire database. If you know the folder subtree in which the asset you are searching for is stored, you can select that folder to speed your search. For example, in Interplay Access, you can select the Project folder, or a particular project within that folder.

Using Attributes

By specifying one or more attributes, you are also instructing the search engine to limit the set of assets that it searches. Simply searching for text, without restricting the search root, is the most time-consuming search, because the search engine searches the entire database. However, if you specify a particular attribute (such as the Time attribute), the search engine can quickly limit the database to a small subset and search for text within that subset.

For example, if you wanted to find a clip about the Nobel Peace Prize acceptance speech, you could search for the text "Nobel Peace Prize." In this case, the search engine will search through the entire database of clips, which could take twenty-five seconds for a large database. However, if you know that the speech took place within the past week, you can select the Time attribute and then the option "Last week." The search engine creates a subset of clips that were modified in the past seven days, and searches for the text within that set. Setting this attribute can reduce the time for a search from twenty-five seconds to one second.

Basic Interplay Search Attributes

The following table lists the basic Interplay search attributes. These are available in the Media Search tab in Interplay Assist, Avid Instinct, and the Interplay Window. They are available in a slightly different format in the Simple Search tab of Interplay Access.

Attribute	Options	Description
Text	*User-supplied text*	Allows you to search all text-based attributes: - Name - Tape - VideoID - Comments - Locator and restriction annotations - User-created fields If you specify more than one word in the Text attribute, the search engine searches for an exact match. For example, if you specify "President speech" the search engine looks for assets with that exact phrase. To search for clips that contain "President" and "speech" anywhere in the text, use the Extended Search in Access.
Text Fields	• Any system property or custom metadata containing a text field • Select All • Clear All	Allows you to search in any text field you select; Name is selected by default.
Search In		Allows you to search in any folder managed by the asset manager
Types	Master Clip Subclip Sequence	Allows you to specify the type of media object for your search (you must select at least one type for each search)

Attribute	Options	Description
Category	*Site-specific list of categories*	Allows you to specify which category to search. The specific categories listed for this attribute are defined by the system administrator.
Time	Whenever Last 10 minutes Last hour Last 24 hours Last week Last month Last year	Allows you to set a time parameter for your search (time parameters refer to the date the media object was last modified)

Access includes additional attributes and options that you can use to search for Avid assets or file assets.

Searching in Assist, Instinct, and the Interplay Window

Avid Assist, Avid Instinct, and the Interplay Window share the same set of attributes and the same user interface: the Media Search tab. They also provide a way to define a folder as a search root. This topic describes how to perform a search in any of these applications.

> *Avid Assist includes a Find function that you use to search within clips and shotlists for text in locators and annotations. It is different from the Media Search function, which searches the media database (see Interplay Assist Search Options).*

> *Avid Instinct includes an iNEWS Search function that you use to search for information in the iNEWS database. It is different from the Media Search function that you use to search the media database.*

The following example shows how to search for clips that have been logged to reference a fire that took place last night.

To search for clips in Assist, Instinct, or the Interplay Window:

1. Open a Media Search tab.

    ▶ In the Interplay Window, a Media Search tab is always displayed.

    ▶ In Assist or Instinct, right-click an Interplay folder and select Search.

    A Media Search tab opens in the Research panel.
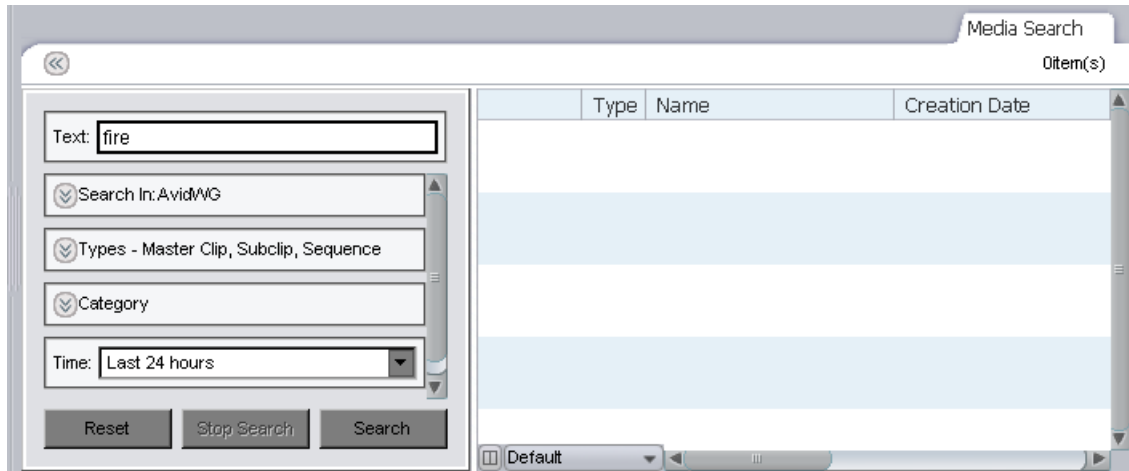
2. In the Text field, type a search term. In this case, type the word "fire."

   You can specify words or characters for your search. Search terms are not case-sensitive and apply to all text attributes of the media objects in your search. If you specify more than one word, the search engine searches for the exact phrase.

3. Click the Text Fields menu, and select the kinds of text fields to search in.

4. (Option) If you know which folder subtree might contain the clips, expand the "Search in" field and navigate to the folder. You can also expand the Types or Category field and select the appropriate option for the search.

5. Click the Time menu, and select a time parameter for your search. In this case you know that the fire took place last night, so you can select "Last 24 hours."

6. Click Search.

   The Interplay search engine limits the database to clips that have been modified (captured or edited) in the last 24 hours, and then searches within that subset for text that contains the word "fire." Any clips that meet these criteria are displayed in the Research panel.

7. (Option) To start a new search, click Reset and then repeat steps 1 through 5.

For complete information on searching media, see the documentation for your application (Assist, Instinct, or Avid editing application).

Searching in Access

Interplay Access provides more options for refining your search than other Interplay applications. There are two ways to search for assets in Interplay Access:

• Running a text-based search on the database (through the text box on the Access menu bar)

• Running an attributes-based search on the database or a selected folder subtree (through a Search tab)

Running a text-based search is more convenient, but depending on the size of your database, could take more time than you want. An attributes-based search provides you with more options for refining your search criteria and results in a faster search.

The following examples shows how to search for clips that have been logged to reference a fire that took place last night.

• The first example illustrates how to search for a clip if you know that the word "fire" appears in any text attribute, such as clip name, comment, and frame locators. This example also uses the Modified attribute to limit the search to clips modified in the last 24 hours.

• The second example illustrates how to make the same search more efficient if you know that the word "fire" is used in the clip's name, because the scope of the search is limited to clip names only. This example also uses the Modified Date attribute to limit the search to clips created after a certain time.

For complete information on searching in Access, see the *Avid Interplay Access User's Guide* or the Access Help.

To search for clips in Access (Simple search):

1. Do one of the following:

   ▶ Click the Search tab. Simple search is selected by default.

   ▶ Select Edit > Search to open a new search tab. You can also press F3 or Ctrl+F (Windows) or Command+F (Macintosh).

   ▶ Select Simple from the Search Type list.

2. If necessary, click the Search Conditions arrow to show the search criteria.

Search Type list   Search Root button

Search
Conditions
arrow
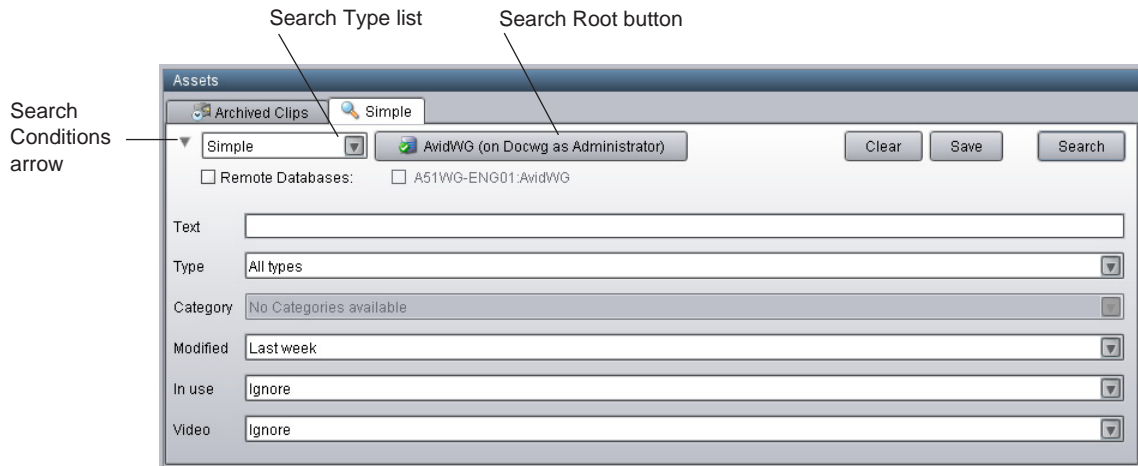
3. (Option) If you know which folder might contain the clips, click the Search Root button and navigate to the folder.

   The Search root button displays the database or folder you selected to search. Selecting a particular database or folder will make the search faster.

   You can also select a folder to search before you open a Search tab.

4. Type the text for the search. In this case, type the word "fire."

5. In the Modified field, click the down arrow and select the time period. In this case you know that the fire took place last night, so you can select "Last 24 hours."

6. (Option) Select a value for the other search attributes by clicking the down arrow and selecting an option.

7. Do one of the following:

   ▸ Press Enter.

   ▸ Click the Search button.

   The Search button changes to a Stop button, which you can click if you want to stop the search. The Interplay search engine limits the database to clips that have been modified (captured or edited) in the last 24 hours, and then searches within that subset for text that contains the word "fire." The results are displayed in the Search Results pane. They are visible until you close Avid Interplay Access or until you perform a new search.

8. (Option) To start a new search, click Clear and repeat steps 1 through 7.

To search for clips in Access (Extended search):

1. Do one of the following:

   ▸ Select Extended from the Search Type list.

▸ Select Edit > Search to open a new Search tab. You can also press F3 or Ctrl+F (Windows) or Command+F (Macintosh). Then select Extended from the Search Type list.

2. If necessary, click the Search Conditions arrow to show the search criteria.

Search Type list   Search Root button

Search
Conditions
arrow
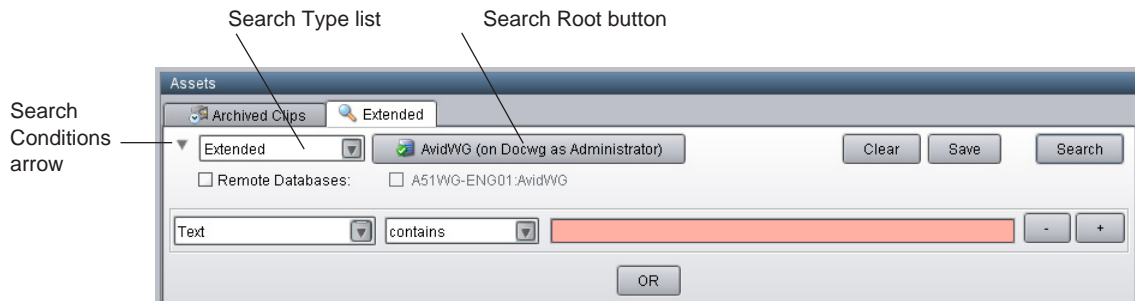
The Extended search uses a set of statements to construct a search. In this example, you can limit the search to the Name field. Even if you are not sure about using other attributes for the search, you can speed your search considerably by limiting the search to just the name of the clip.

3. (Option) If you know which folder might contain the clips, click the Search Root button and navigate to the folder.

The Search root button displays the database or folder you selected to search. Selecting a particular database or folder will make the search faster.

You can also select a folder to search before you open a Search tab.

4. Specify an attribute, in this case, "Name."

5. Specify an operator, in this case, "contains."

6. Type the words you want to search for, in this case, "fire."

7. Add another search statement by clicking the + button and specifying the following:

    - Select "Modified Date" as the attribute. The attribute selections include any attribute defined and enabled in the Property Layout view of the Interplay Administrator.

    - Select "after" as the operator.

    - Specify a date and time. You can edit the default date and time in the field. You can also use the calendar button to select a date.
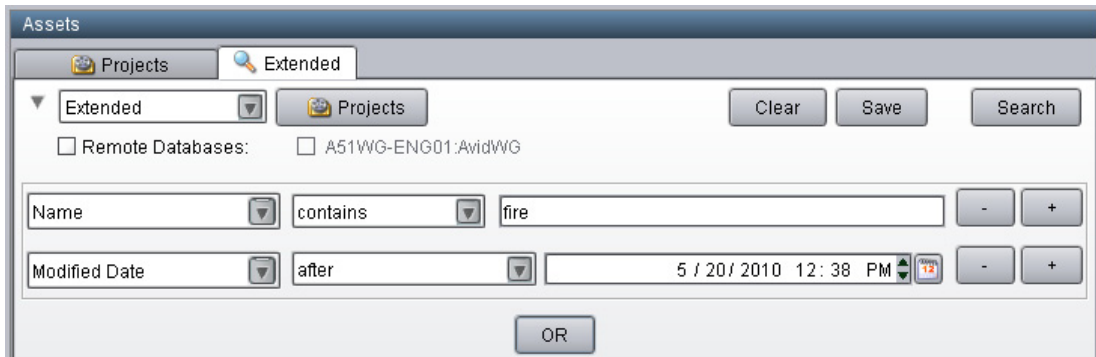
8. Do one of the following:

   ▶ Press Enter.

   ▶ Click the Search button.

   The Search button changes to a Stop button, which you can click if you want to stop the search. The Interplay search engine searches only the names of clips for those that contain the word "fire" that were created after April 22, 2010. The results are displayed in the Search Results pane.

9. (Option) To start a new search, click Clear and repeat steps 2 through 8.

Example: Finding Assets By Using a Unique Identifier

This topic illustrates a workflow in which you assign a unique identifier (numbers, letters, or a combination) to an asset and use that identifier to find and display the asset. For example, you could choose to associate a unique number with each sequence in an Interplay database so that you can quickly find a particular sequence later using that number, even if someone has changed the name of the sequence. This workflow uses a custom property and a custom search for the most efficient and reliable way of finding the asset.

There are alternative methods for associating a unique identifier to the one described in this topic. However, they do not make optimal use of the Interplay search engine. For example, one workflow might be to append an identifier to the end of an asset name so that it can be tracked with the asset. A disadvantage to this approach is that you need to use the full-text search mechanism to find the asset. Another disadvantage is that renaming the asset will remove the identifier unless you add it to the new name.

A more efficient approach is to create a custom property (or *metadata field*) that is used exclusively to hold the identifier. You can then search for the asset by using an exact match rather than a full-text search, and you can rename the asset without needing to add the identifier. You use the Interplay Administrator to create a custom property, and then use Interplay Access to set and search for the identifier.

Adding an identifier to the name of an asset and using full-text search to locate the asset by name causes unnecessary extra load on the Interplay Server, because it searches through much more data than it would if searching on a single custom property. You should always define a custom property if your workflow uses a unique identifier.

The following procedures describe

- How to add and display a custom property

- How to add the identifier

- How to search for the identifier

Prerequisite: A user must have write permission on an asset to add an identifier to an asset.

To add a custom property:

1. In the Site Settings section of the Interplay Administrator window, click the Property Layout icon.

2. In the Property Layout view, select the database for which you want to set properties.

3. Click the Custom Meta Data tab.

4. In the Add Custom Meta Data Field text box, type a name for the custom property. In this case, type the name "Identifier."

5. Click the green plus sign (+).

   The custom property appears in the list.

6. Select the Available option, which makes the custom property available for users to add into Interplay Access displays and to use in an Extended search.

7. Select the options to include the property in the Content tab and the Object Inspector's Properties tab. Users can then add or edit a value for Identifier in Interplay Access.

8. Click Apply to save the added custom property and new layout.

    The next time a user logs in to Interplay Access, the Identifier property will be displayed.

📖 *Deselect the property in the Available column to turn off custom properties that you do not want displayed in the Interplay Access properties lists. You cannot delete custom properties for this release but you can turn off their display. For more information about working with custom properties, see "Creating Custom Properties" in the* Avid Interplay Engine and Avid Interplay Archive Engine Administration Guide.

To set an identifier for an asset:

1. In Interplay Access, select the asset for which you want to set the identifier. In this case, select a sequence.

2. The first time you want to set an identifier, do the following:

    a. Click the Properties tab, scroll down and click the Configure button.

        The "Configure visible user properties" dialog box opens.
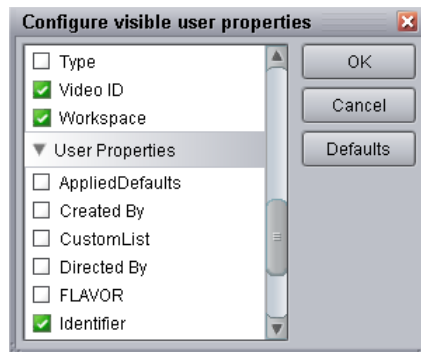
    b. In the User Properties section, select "Identifier" to display the property in the Object Inspector, and click OK.

3. In the Object Inspector, scroll down until you see the new custom property Identifier.

4. Click the text box and type the identifier.

    You need write permissions on the asset to add the identifier. An orange box highlights the controls for adding a property value.
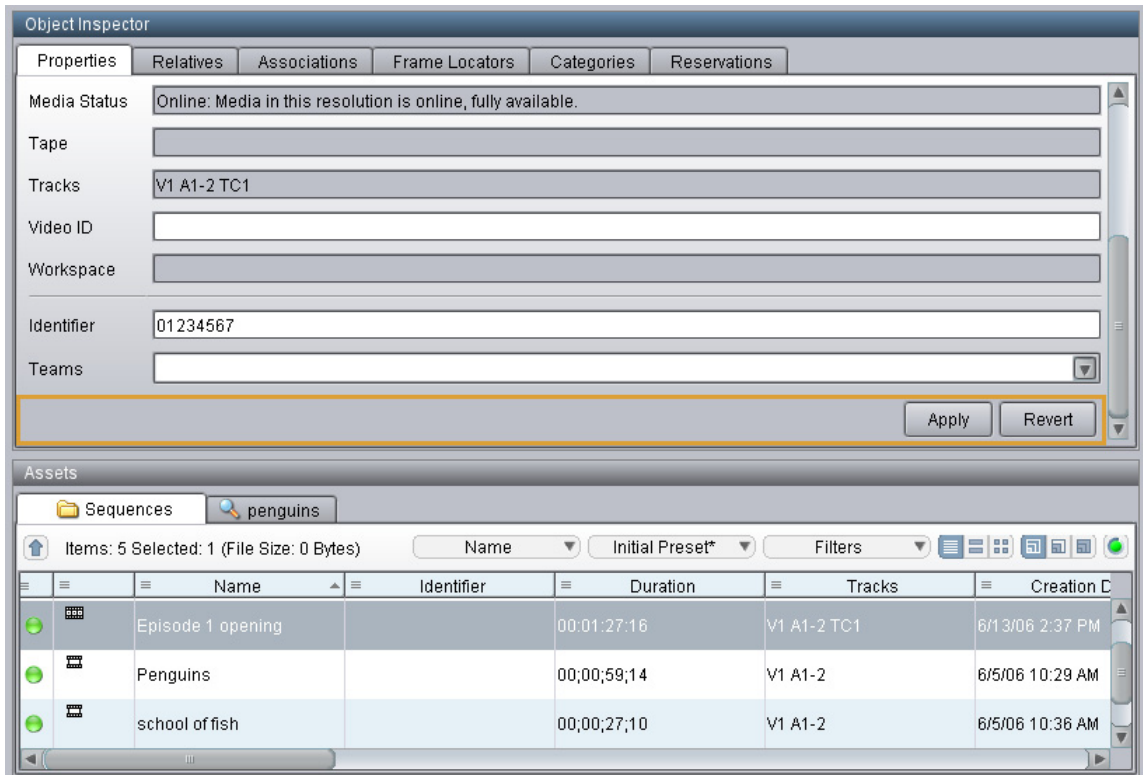
5. Click Apply.

   The identifier is displayed in the Identifier column in the Contents tab.
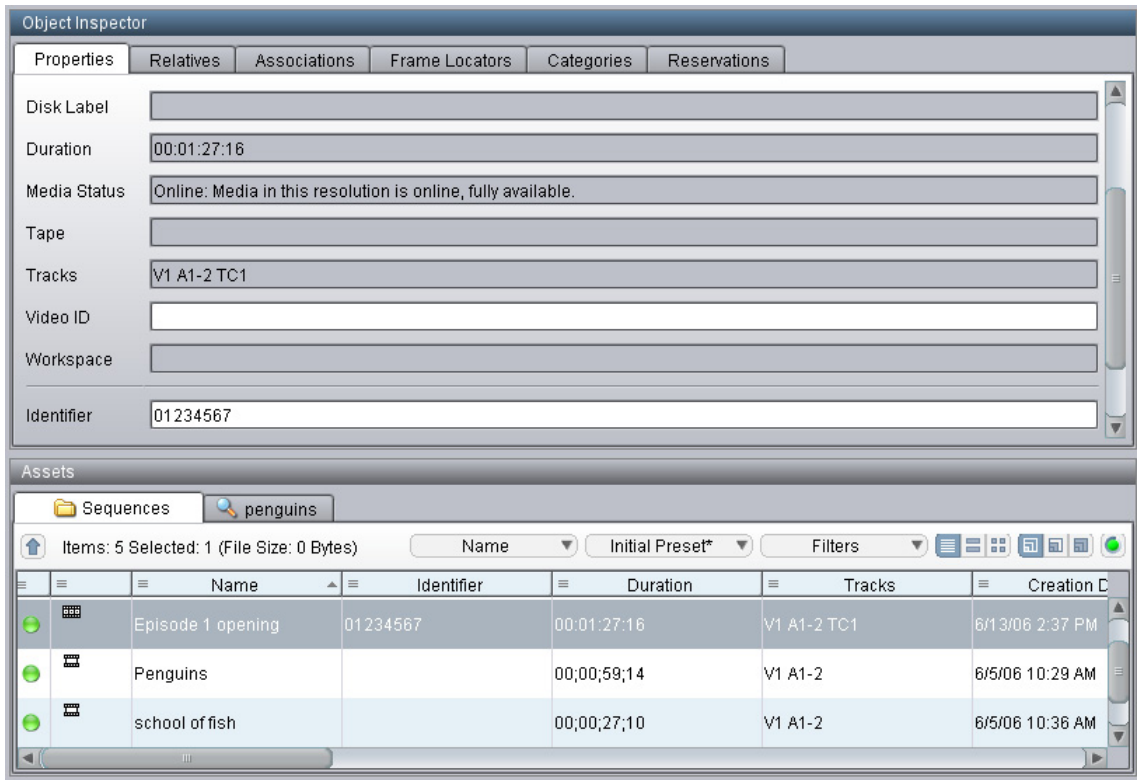
To search for an asset using the unique identifier:

1. In Interplay Access, click the Search tab, then select Extended from the Search type list.

2. Click the Attribute Name field, scroll down the list, and select Identifier.

3. In the Operator field, select "is."

4. In the Value field, type the identifier, and click Search.

   The asset is displayed in the Search results list.

If you know only part of an identifier, select "contains" from Operator field and type part of the identifier. This is less efficient than an exact match, but is much more efficient than a full-text search on the name.

6 Using AMA Material in Interplay

This chapter contains the following topics:

Overview

Interplay v3.0 and later supports checkin and dynamic relink of AMA (Avid Media Access) material. The following are two goals for the release:

- Improve the Interplay workgroup aspects of the Avid file-based workflow
- Provide better support for workflows that make use of a large ratio of raw footage compared to the size of the final show

For example, some post-production shoot scenarios, such as reality TV, use multiple, heterogeneous cameras, with shoot ratios (unused/used) can that range from 30/1 to 100/1 or more. This means that every hour of programming can involve perhaps 100 hours of raw media to process. Processing includes copying the media from camera storage (Optical disk or SSD) to something more usable by the production system, such as ISIS shared storage.

One way to handle this in the past was to consolidate the recorded AMA media to native MXF files on the ISIS system associated with the Interplay production environment (such as an ISIS 5000 or ISIS 7000). However, the potentially high shoot ratios mean that a lot of capacity was used to hold media that might be discarded later in the process. To solve this, the AMA workflow introduced in Interplay v3.0 uses a second, low bandwidth ISIS 2000 as a parking storage area for the AMA media. Later, when the material that should be saved is identified, it can be consolidated from the AMA source to the ISIS production system at full resolution.

AMA on Interplay Workflow

The following illustration shows a basic AMA workflow for Interplay.
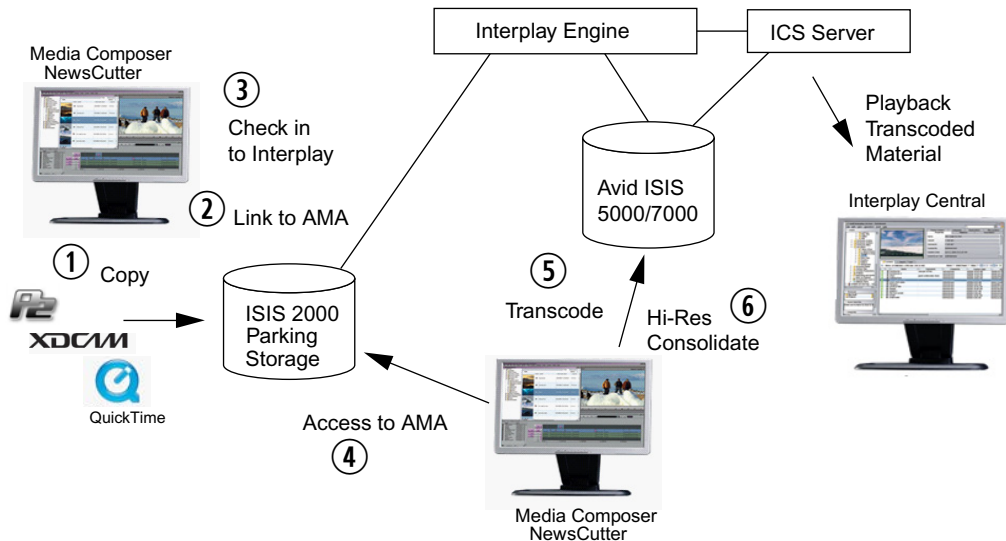
The following sections describes these numbered portions of the AMA workflow for Interplay. You can perform the operations individually or you can use the Dynamic Media Folder (DMF) feature in the Avid editing applications to automate the process. See *What's New for Media Composer v7.0* for information on DMF.

Before You Begin

Before you can perform the third step in the workflow (Check in to Interplay), you must configure the Media Indexer and the Interplay Administrator tool to recognize the new material. See "Configuring the Media Indexer to Index AMA" on page 128.

1. Copy the AMA Material to Shared Storage

This step involves copying files from the camera media card or disk to shared storage and does not have to be performed on an editing workstation.

📖 *In order to be able to perform a dynamic relink to AMA material, the AMA material must reside on shared storage at the time of checkin.*

This workflow uses a shared storage system such as an ISIS 2000 as a parking area for the AMA media. This allows you to store all of the original AMA media on shared storage without taking up space on your high bandwidth ISIS 5000 or ISIS 7000. This is particularly useful if you have

a high ratio of shooting versus footage used in the final production. In this scenario you would have a multiple ISIS setup; one for the original AMA material and one for your production material.

Create a folder structure in the ISIS parking area that organizes the material by project and use a unique name for each new folder. For example, if you have a series of interviews associated with ProjectA you could create a folder structure such as Project A/interviews/interview1 and store the media for interview1 in that folder.

Drag and drop all of the material from the media card or disk into the appropriate folder. For additional information on this part of the process, search for "File Based Media - AMA" in the editing guide or Help for you Avid editing system.

2. Create a New Bin and Create a Link to the AMA Media on Shared Storage

Create a new bin on the Avid editing application. From the new bin, use the Link to AMA command in the Avid editing application to link to the AMA material on shared storage. For information on the Link to AMA process, search for "Avid Media Access (AMA) Workflow" in the editing guide or Help for your Avid editing system.

After you successfully link to the AMA material, the Avid editing system creates clips in the bin for the media and you can start working with the material in the editor. If you want other editors to be able to access the media, you need to check the AMA clips into Interplay.

3. Check the AMA Clips into Interplay

You can use the following methods to check the AMA clips into Interplay:

- Use menu commands or automatic checkin
- Drag assets to the Interplay Window
- Check the files in automatically as part of the profile associated with a DMF folder

For information on checking assets into Interplay, see "Checking Avid Assets into the Interplay Database" in the editing guide or Help for your Avid editing application. For information on using the DMF (dynamic media folder), see *What's New for Media Composer v7.0* or the Media Composer Help.

When you check the AMA clips into Interplay, the Interplay client library creates files that the Media Indexer can index. The files have a .spaaf (sparse AAF) extension. For information on the files that are created, see "How the Media Indexer Works with AMA Material" on page 126.

Before you begin to check the AMA files into Interplay, you must manually create the top level folder for the .spaaf files and configure the Media Indexer to index that folder. Avid recommends that you dedicate a specific workspace for the spaaf files. See "Configuring the Media Indexer to Index AMA" on page 128.

The SPAAF workspace on ISIS must be mounted and accessible by the editing user on the editing machine. On a Mac OS X system, the workspace must be mounted using the same name as the workspace. The checkin will fail if this condition is not met.

4. Access to AMA

After the Media Indexer indexes the new files, other Avid editing applications can check out the clips and work with them. Interplay Access can also search for the files and display information about the files in the Object Inspector. See "Viewing AMA Clips in Access" on page 123. Note that Interplay Central, Assist, and Avid Instinct cannot play the material until you transcode it to an Avid resolution.

5. Transcode the AMA Material

Depending on the bandwidth requirements of the AMA material, you can improve playback and editing performance on the Avid editing systems if you transcode the AMA material you want to work with to an Avid resolution. Then consolidate the new material to your production ISIS system.

Another benefit of transcoding the AMA material is that Interplay Central, Assist, and Instinct users can now work with the clips.

You cannot create an H.264 proxy from the AMA material using the Transcode feature on an Avid editing application. However, you can use Interplay Transcode to create a proxy.

6. High Res Consolidate

If you are working with a transcoded resolution, you can dynamically relink back to the high resolution AMA material when you want to consolidate a high res version of your final sequence to your production ISIS system. This allows you to finish the sequence using the original AMA resolution. In this case only the portions of the AMA material that are used for the final sequence need to be stored on the production ISIS system.

In a broadcast facility, you can transcode this final AMA sequence to the format that you need for a send to playback operation. This allows you to create a final version from the original AMA media. In a post facility, a colorist may use the high resolution AMA material for a final color correction. Then it can be transcoded for the final output.

Viewing AMA Clips in Access

After you check an AMA clip into Interplay you can search for or navigate to the clip in Access. The following illustration shows an AMA clip in the Access Object Inspector.
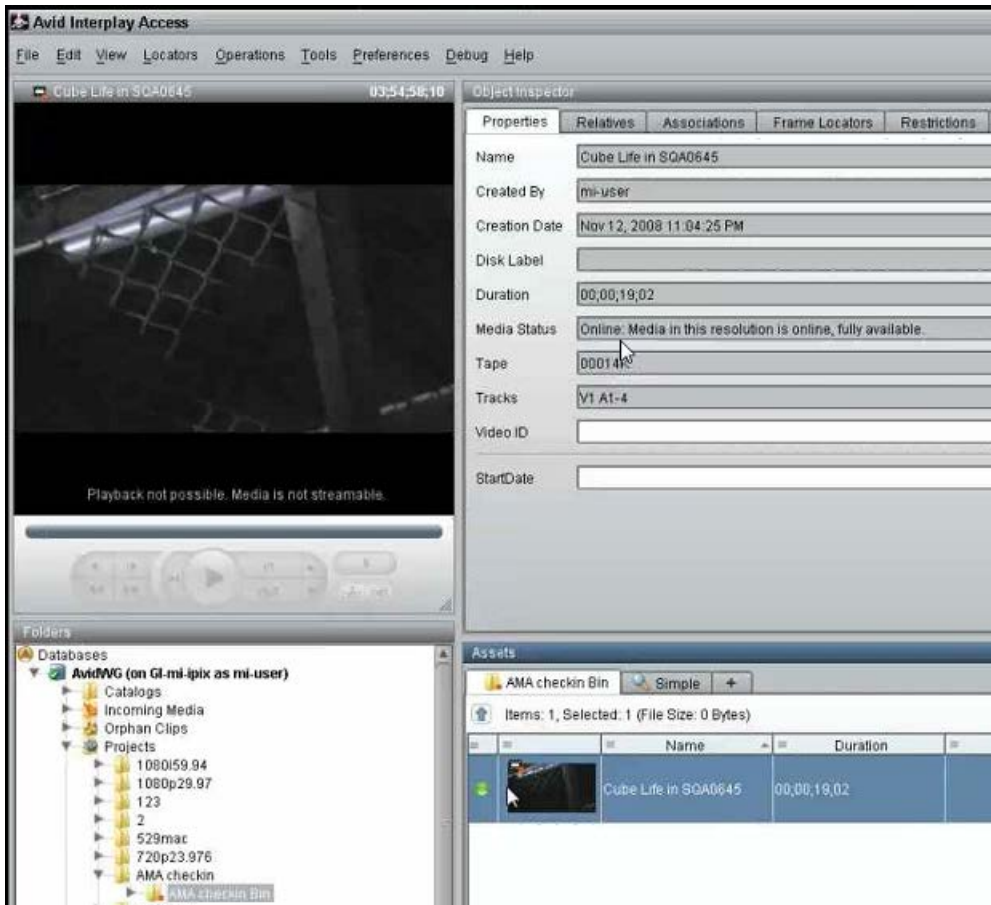
The following information is specific to using Access with AMA material.

• There is a new column in the Assets view named AMA Media Status. This allows you to determine whether the object you are looking at contains AMA material. The column displays one of the values described in the following table.

Value	Description
has AMA media linked	The clip is linked to both AMA media and native Avid media

Value	Description
has only AMA media linked	The clip is linked to AMA media, but is not linked to native Avid media.
no AMA media linked	The clip is not linked to AMA media.

The following illustration shows an example of each value.

- There are several new search criteria for an Interplay Access extended search, as described in the following table.

Criterion	Description
has AMA media linked	Search for clips linked to AMA media. These clips can include only AMA media or both AMA media and native Avid media.
has only AMA media linked	Search for clips that are linked to AMA media but not to native Avid media.
has native Media linked	Search for clips that are linked to both AMA media and native Avid media.

- For clips that have only AMA media, there are no entries in the File Locations for the Object Inspector.
- You can use Access to delete the master clips and sequences containing AMA material but you cannot use Access to delete the related .spaaf files or AMA media files. The .spaaf files and AMA media files are not registered in the Interplay database for this release.

To turn on the display of the AMA Media Status column and search fields in Access:

1. Open the Interplay Admin tool.
2. Open the Properties Layout view in the Site Settings area.
3. Select the three columns for AMA Media Status and click Apply.
4. In Interplay Access, select Properties from the View Presets menu in the Assets view.
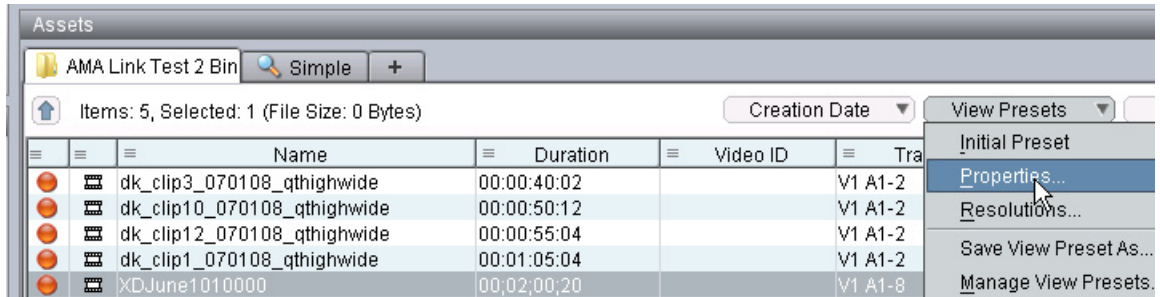
5. Select AMA Media Status and click Apply.
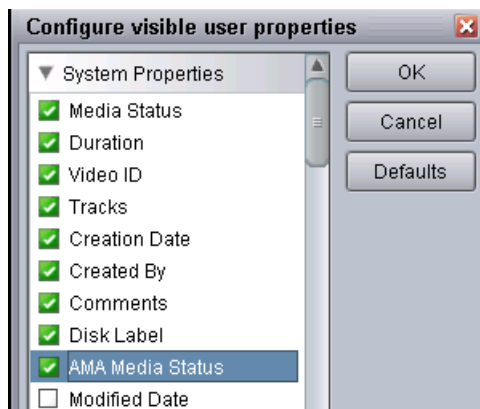
The AMA Media Status column appears in the Assets view and now you can perform an extended search for AMA Media Status values.

How the Media Indexer Works with AMA Material

In releases prior to Interplay v3.0, the Media Indexer was not able to index AMA material. This limitation is related to the difference between AMA material (OP-1A format) and the OP-ATOM format associated with .mxf material. The following illustration compares OP-1A and OP-ATOM material.
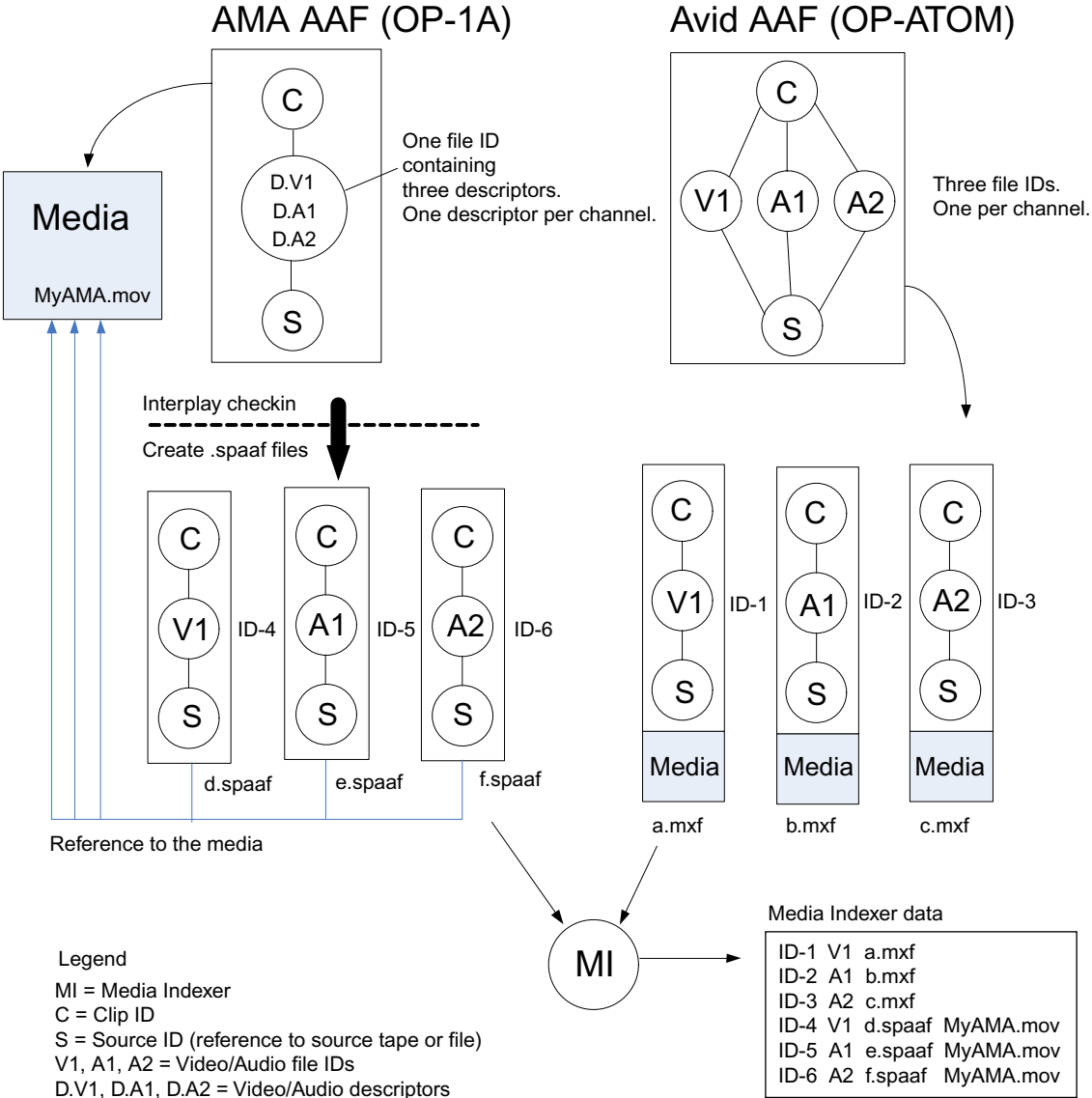
Checking AMA Media Into Interplay - Comparing OP-ATOM and OP-1A

Avid AAF (OP-ATOM) Format

The example in the previous illustration uses a clip with one video channel and two audio channels. The top portion of the Avid AAF section is a representation of what you can see in an Avid editing system bin for digitized MXF material. The metadata contains the following:

- A clip ID
- Three file IDS, one for each video and audio track.
- A source ID (for example, a reference to the source file or source tape)

The three file IDs relate directly to the associated .mxf files on shared storage. The .mxf files contain the related media and each contains a File ID that identifies the file as video or audio. In the "Media Indexer data section" of the illustration, the Media Indexer lists the three files starting with ID-1, ID-2, and ID-3.

AMA AAF (OP-1A) Format

The format for the OP-1A material above the dashed line in the illustration is obviously different. Instead of separate file IDs for video and audio, the information is stored as separate descriptors within one file ID. And the media is store separately without the metadata elements associated with OP-ATOM material.

AMA Checkin to Interplay

The area below the dashed line in the illustration shows the new files created when you check AMA material into Interplay v3.0. The Interplay client library (also known as the JXDK) creates a new file for each channel or track of the AMA material. These new files have a .spaaf extension (sparse AAF) and are in a format that the Media Indexer can index. Each file contains a file ID for the associated audio or video channel as well as a pointer to the related portion of the media. The "Media Indexer data" portion of the illustration shows these files as ID-4, ID-5, and ID-6. Each entry in the Media Indexer database references the .spaaf file and the AMA Media file.

For Interplay v3.0, the .spaaf files must be located under one high level folder. As you check the AMA files into Interplay, the system maintains a hierarchy of folders within that folder. You store the AMA media files in a separate location such as an ISIS 2000 parking storage. The Media Indexer needs to be aware of the location of both sets of files. It does not index the AMA media files but it does index the .spaaf files. This allows you to use dynamic relink to an AMA resolution. See "AMA on Interplay Workflow" on page 120.

Configuring the Media Indexer to Index AMA

You use the Media Indexer web interface to connect to AMA material. To open the web interface, enter the following in a browser window:

http://<*MI system name*>:8888/mi/

where <*MI system name*> can either be the name of the system running the Media Indexer or its IP address. The string ":8888" identifies the port that the Media Indexer system uses for web communication.

For information on other new features in Media Indexer v3.0, see "Configuring Media Indexers for Interplay v3.0" on page 34.

To use the MI web interface to identify the location of the .spaaf files:

1. Click the Configuration tab and then click the AMA Configuration tab.

   The system displays the Registration Files Configuration area. This is the top level of the storage location for the .spaaf files created when you check an AMA clip into Interplay.
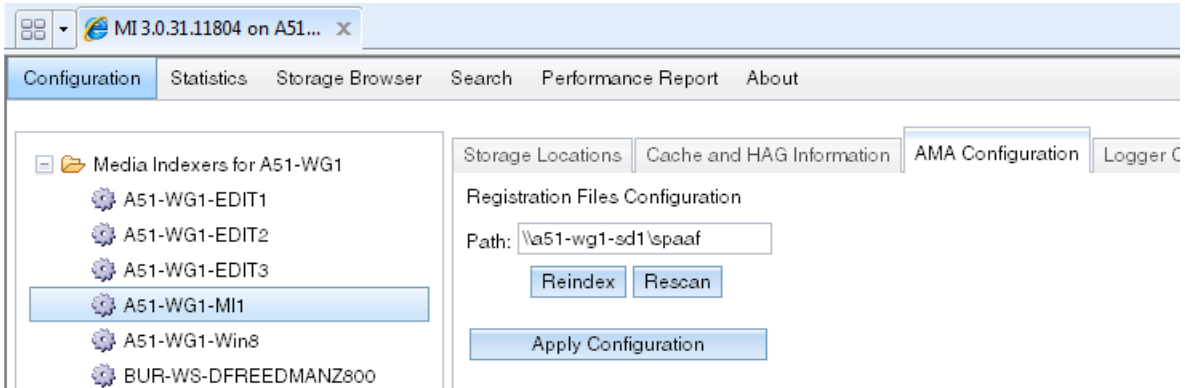
The following applies to the workspace that contains the .spaaf files:

   - All of the .spaaf files must be located under one top level directory. Avid recommends setting up a specific workspace for the spaaf files. Do not add ,mxf files to this workspace.

   - The workspace containing the .spaaf files must be mounted as an ISIS workspace on the editing client. Checkins will fail if the workspace is not mounted.v

   - The editor must have write permission to this workspace.

2. Enter the path to the top level of the .spaaf directory as a UNC path. This must be the same path that you identify in the Interplay Admin tool later in this section.

3. Click Apply Configuration.

To identify the location of the AMA media files:

1. Click the Storage Locations tab.

The system displays the locations of .mxf media on shared storage as well as any previously defined AMA storage locations. The AMA locations are identified with a folder icon.
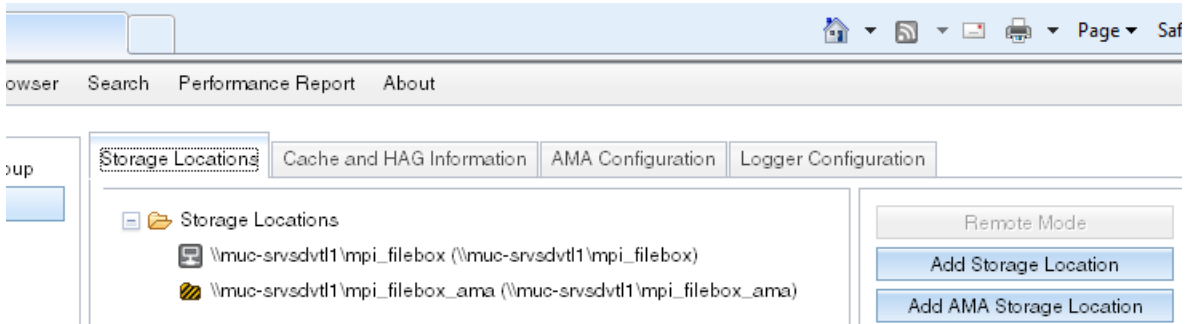
The Media Indexer needs to know the location of the AMA media files but it does not index those files. The Media Indexer indexes the related .spaaf files at the location configured in the previous section..

2. Click the Add AMA Storage Location button.

The system displays a path dialog and a browse button.
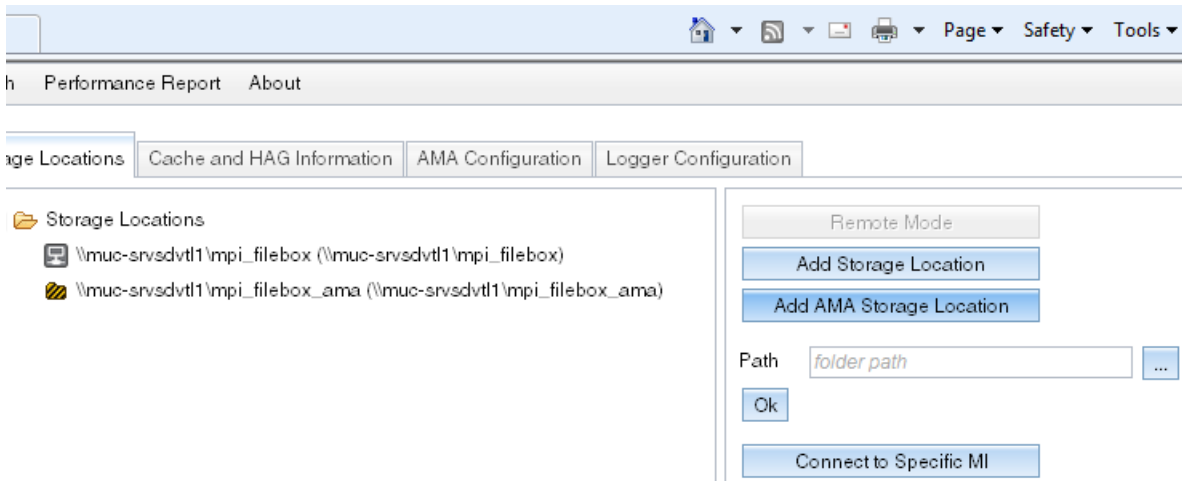
3. Click the Browse button to navigate to the location of a folder containing AMA media on shared storage. You can have multiple AMA media folders in different locations.

4. Click OK. The AMA storage location appears in the list of storage locations. A folder icon identifies it as an AMA storage location.

Do not mix .mxf media files and AMA media files in the same storage location.Also, do not mix .spaaf files and AMA media files in the same location.

To identify the location of the .spaaf files on the Interplay Admin tool:

1. Open the Interplay Admin tool and open the Server Hostname Settings view as shown in the following illustration.

2. In the "Media Indexer AMA Shared Storage Location" text box, enter the location for the .spaaf files. Enter the value as a full UNC path. This must be the same location that you identified for the .spaaf files in the Media Indexer web interface. In the above example, the name of the ISIS System Director system is a51-wg2-sd1. A specific workspace is set aside for the .spaaf files named spaaf.

> *Avid recommends that you set up a specific workspace for the .spaaf files. Do not add .mxf files to this workspace.*

    3. Click Apply Changes.

Viewing Statistics about AMA Media

You can view information about AMA files using the Media Indexer Statistics page and Storage Browser. Note that this information is not available until you check the AMA media into the Interplay database.

To view storage statistics about AMA files:

1. Click the Statistics tab.

2. For comparison, open and (optionally) rearrange the following panes:

    - Storage Statistics

    - AMA Storage Statistics

    - Storage Workspaces

    - AMA Storage Workspaces

   Media Indexer displays separate panes for .mxf files and AMA .spaaf files.

Note that the Total size provided in the statistics and the Storage Browser window for AMA relates to the size of the .spaaf files. The size of the AMA media files is not known to the Media Indexer.

To obtain the total file count for the Media Indexer:

▶ Add the Files values from the "Storage Statistics" and "AMA Storage Statistics" panes together to obtain the number of files that the Media Indexer is indexing.

Recall that a separate .spaaf file is created for every channel (track) in an AMA media file. This means that if you check an AMA file with one video track and four audio tracks into Interplay, you add five files to the Media Indexer file count.

Using the Storage Browser

Starting at Interplay v3.0, the Storage Browser window contains separate sections for MXF media and AMA media.

To view information about AMA media in the Storage Browser:

1. Click the Storage Browser tab.

 The Storage Browser window opens to show separate folders for MXF and AMA media.
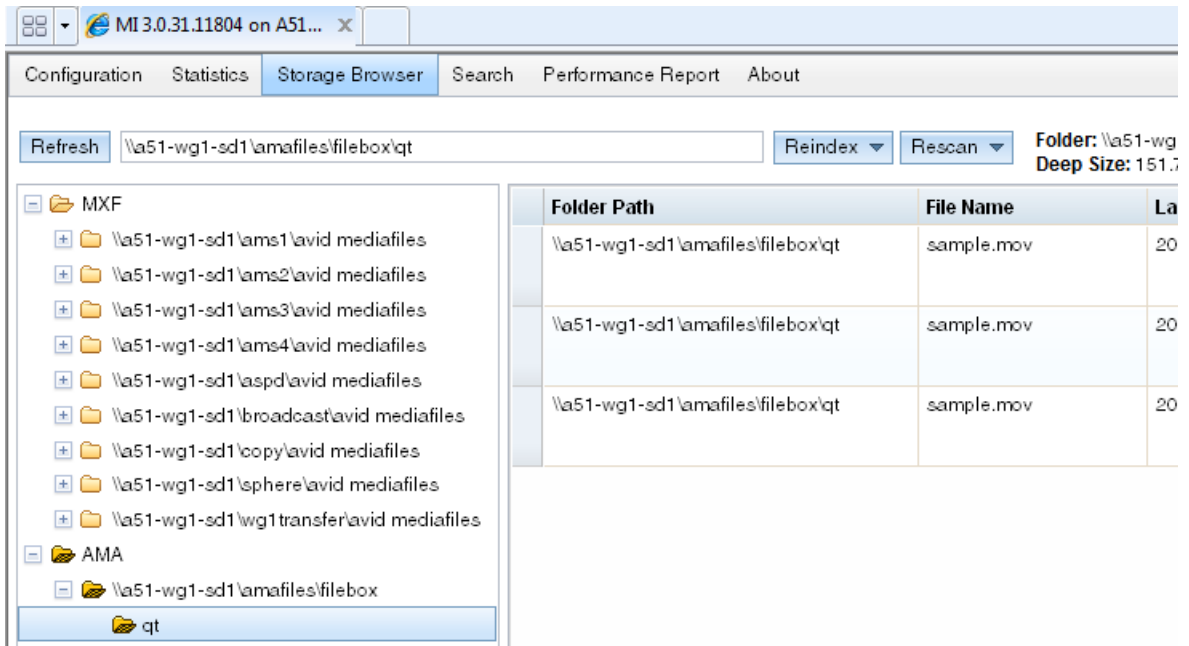
You can use the storage browser to see how the AMA media files are organized. In this example, the AMA files were copied to a subfolder on a workspace named amafiles.

To view the location of the .spaaf files, scroll over to the right in the window.

7 Sony XDCAM HD and XDCAM EX End-to-End Workflow

Interplay v1.6 and greater supports an end-to-end Long GOP workflow for several of the Sony®
XDCAM™ HD and XDCAM EX formats and modes that are used at many broadcast sites. This
section describes the overall workflow and lists the limitations particular to the release. For a list
of supported formats (also known as operating points), see the *Avid Interplay ReadMe*.

This chapter includes the following topics:

- MPEG-2 Long GOP Overview
- Supported File Formats for XDCAM HD and XDCAM EX Media
- Long GOP Workflows

MPEG-2 Long GOP Overview

MPEG (Motion Pictures Expert Group) is an ISO/IEC standards group that has defined a number
of standards for digital compression of audio and video signals. MPEG-2 is one of the standards
defined by the group. MPEG-2 defines a set of generic video and audio compression and
decompression technologies (codecs) that supports a wide range of SD and HD video
applications.

MPEG-2 codecs can employ either intra-frame compression ("I-frame only" as with IMX) or
inter-frame compression ("Long GOP" as with XDCAM HD and XDCAM EX). GOP stands for
the "Group of Pictures" that are compared during compression and decompression of the images.

A GOP contains several different types of compressed frames:

- I frames, which are compressed frames that do not depend on any frames around them. I
  frames anchor the beginning of the GOP.
- P (predictive) frames and B (bidirectional) frames, which depend on the frames around
  them.

You cannot decompress an isolated P or B frame because of their dependency on other frames.
This leads to some of the limitations associated with Long GOP as described in the following
section.

For an overview of MPEG-2 and other compression standards, see Symes, Peter. *Digital Video Compression*. McGraw-Hill, 2003.

Long GOP Benefits and Limitations

Long GOP native workflows provide the following benefits in a broadcast environment:

- Efficiency: Lower data rates mean faster network transfer times and lower storage (bandwidth and capacity) requirements.

- Compatibility: Many common ingest and playout devices employ Long GOP compression. In a broadcast environment it is important to keep the Long GOP data stream intact as much as possible throughout the workflows to reduce the number of time-consuming decode and encode cycles.

Long GOP native workflows have the following limitations:

- Processing Times: Processing Long GOP image sequences takes more computational power than I-frame-only image sequences, making some aspects of the workflow slower. For example, often during the creation of a program for air, new frames must be created (for example, visual effects), requiring decompression and recompression of the GOPs. It is often impossible to avoid the time-consuming decompressing and re-compressing of the Long GOP data stream. Scrubbing performance can also be affected because the frame that you want to display may have to be generated from a number of surrounding frames.

- Image Degradation: In many cases, especially at lower data rates, Long GOP images might degrade in visual quality very quickly as the stream is decompressed and then recompressed. Many operations, such as visual effects rendering, can affect image quality. Rendering the same media several times can increase the degradation. Even cuts-only editing of Long GOP content can affect image quality around the edit points. For this reason, many content creators prefer to use I-frame-only formats during program creation even if Long GOP formats are used for distribution.

  For example, if you perform a large amount of compositing or rendering, you should use DNxHD resolutions for rendering. This creates I-frame only media and minimizes degradation of the rendered media. In this way you will benefit from the storage and bandwidth savings for your captured Long GOP material and only use the more bandwidth-dependent resolutions for rendered media.

Many broadcasters feel the benefits of Long GOP compression outweigh the limitations, especially for news production and on-air applications. When considered purely as a transmission format, Long GOP requires considerably less bandwidth than an I frame format with comparable picture quality.

Supported File Formats for XDCAM HD and XDCAM EX Media

The following formats are associated with XDCAM HD and XDCAM EX media:

- MXF OP-ATOM: This is the Avid editing application native media format for XDCAM HD and XDCAM EX material. This format stores each audio and video tracks as a separate file.

- MXF OP-1A: XDCAM HD devices store media in MXF OP-1A format. OP-1A files include multiple tracks of audio and video sources that are interleaved into a single file. In this document, XDCAM HD material is sometimes referred to as disk-based to differentiate it from XDCAM EX (card-based) material.

- MP4: XDCAM EX devices store media in MP4 format. This is basically MPEG-2 material with an MPEG-4 wrapper. This format also includes multiple tracks of audio and video sources that are interleaved into a single file.

You can either work on the OP1-A and MP4 files directly on the Sony disk or card and then consolidate to MXF OP-ATOM or use a variety of methods to convert the files to OP-ATOM during the import or capture process. For details on working with these formats, see "Long GOP Workflows" on page 136.

📖 *Some XDCAM HD devices support a "Direct Access" mode in which the video and audio tracks are presented as separate files in the interface rather than interleaved into a single file. These separate files are not supported directly by Avid applications, although some third party utilities do support them.*

For a list of supported formats (also known as operating points), see the *Avid Interplay ReadMe*.

Long GOP Workflows

This section describes the basics of an end-to-end Long GOP workflow and lists the Avid applications that are used in the process.

Capture Workflow

The capture workflow moves the Long-GOP material into the collaborative production environment, including shared and local storage and Interplay asset management. All incoming media is rewrapped as MXF OP-ATOM media files. Audio is uncompressed PCM. When using AirSpeed Multi Stream together with Interplay Low Res Encode to create a dual ingest, the Low Res Encode device creates compressed MPEG-1 Layer 2 audio proxies.

The following illustration shows four Long GOP ingest paths.
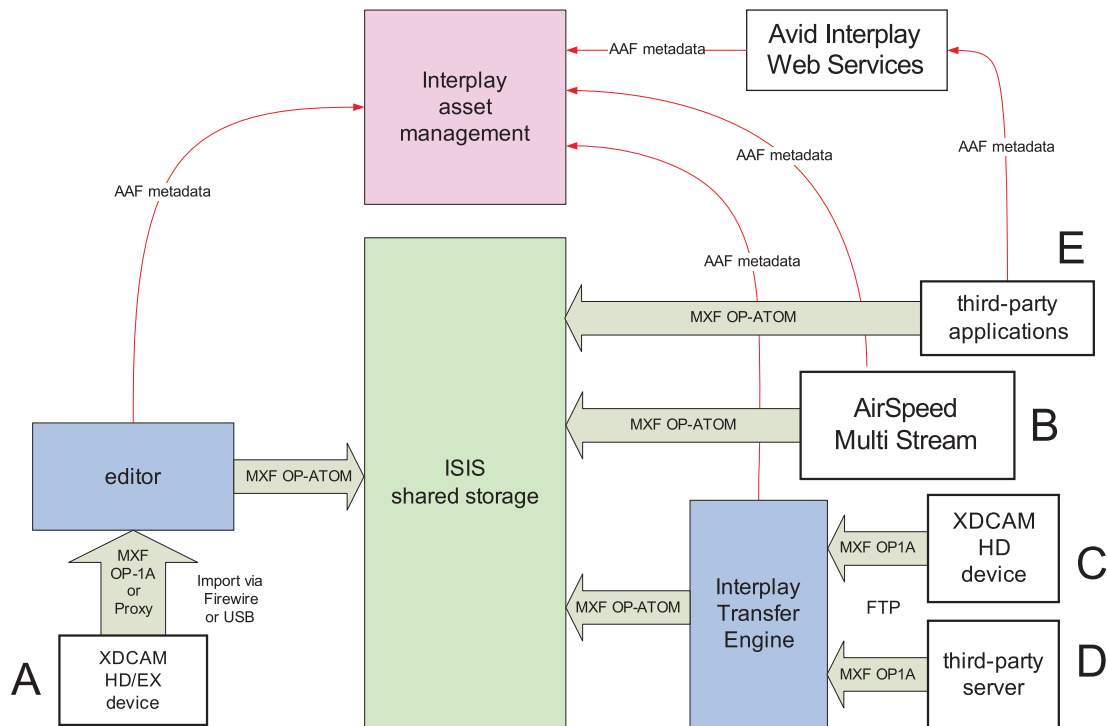
The ingest paths in the illustration are marked with the letters A through E. The following sections describe the ingest paths:

Path A. Editor Import Directly from Sony XDCAM HD or EX Device

This path uses the following connections:

- XDCAM HD (disk based) Firewire or USB
- XDCAM EX (card based) USB only

XDCAM HD devices store media as MXF OP-1A interleaved files and XDCAM EX devices store media as MP4, also with interleaved files. You have two choices for capturing XDCAM HD and XDCAM EX media:

- Use the Avid Media Access (AMA) Workflow. This method allows you to work directly with the native files on the XDCAM HD disk or XDCAM EX card. The files open in a bin on your Avid editing application. You can create sequences with the media or select the clips you want to capture. When you are ready to bring the files into the Interplay environment,

select the sequence or clips and use the Consolidate command to create new OP-ATOM media files. The Consolidate command copies the new files to shared storage and performs a check-in to Interplay.

You can also copy the native files from the disk or card directly to a folder on shared storage and work with them there before you edit the files and perform the consolidation. This frees up the editor from the process of copying the XDCAM data from the cards. For example, a cameraman can copy the contents of several XDCAM cards or disks to shared storage and then the editor can edit and consolidate the material at a later time. *In this workflow, copy the files to a workspace or folder that is not monitored by the Media Indexer that monitors shared storage.* The Media Indexer only supports the OP-ATOM files that are created when you perform a consolidation.

• Import the files using the "Import and Export Workflow" method as described in the Avid editing application Help.

  - For XDCAM HD (disk-based) files, import the MXF OP-1A files into the Avid editing application. During the import process the editing application converts the files to MXF OP-ATOM.

  - For XDCAM EX (card-based) files, use a Sony application named ClipBrowser to convert the MP4 files to OP-1A. Then import the OP-1A files into the Avid editing application or drag the clip to a bin. During the import process the editing application converts the files to MXF OP-ATOM.

  - You can also use the ClipBrowser application to convert XDCAM EX files directly to MXF OP-ATOM files and AAF metadata files. In this case, copy the OP-ATOM files to the Avid MediaFiles folder on a shared storage workspace and drag the AAF file to a bin.

In AMA and "Import and Export" methods, the import or consolidate operation writes the files to shared storage and performs a check-in to Interplay via AAF metadata. Both of these workflow methods are described in the Help for your Avid editing application. See "File Based Media" in the Help.

The Import and Export method allows you to import the proxy media and high resolution media. The AMA method only allows you to work with high resolution.

For some Import and Export workflows, you might want to import the proxy media first so you can start editing. Once you create your sequence, you can use the batch import function to import only those portions of the high-resolution clips needed for your sequence.

For other Import and Export workflows, you might want to import the proxy media to an editing workstation, and then separately import the high-resolution media to Avid shared storage using Avid Interplay Transfer. This process also checks the associated AAF metadata into the Interplay

database. Your Avid editing application maintains the connection between the proxy media and the high-resolution media, so you can relink the edited clips at any time to the high-resolution master clips in an Interplay environment.

Path B. Ingest Through AirSpeed Multi Stream

The AirSpeed Multi Stream server performs the following operations:

• Encodes the incoming video to MXF OP-ATOM files

• Writes the new media files to shared storage

• Performs a check-in to Interplay through AAF metadata

The Airspeed Multi Stream also supports the following Interplay features:

• Dual ingest with Avid Low Res Encode

• Frame Chase Editing via Interplay Transfer.

For additional information, see the *Avid AirSpeed Multi Stream Installation and User's Guide*. For information on Frame Chase Editing, see Using Frame Chase Editing.

Paths C. and D. Interplay Transfer Ingest from XDCAM Device or Third-party Servers that Support FTP

The Interplay Transfer Engine performs the following operations:

• Pulls the media from the device through Generic FTP and splits it into separate MXF OP-ATOM media files

• Writes the files to shared storage

• Performs a check-in to Interplay through AAF metadata

Paths C and D have the following limitations:

• In the case of a third-party server, the server must support MXF OP-1A at the required rates and formats. As of this writing, Omneon devices have been qualified for this operation. See the *Avid Interplay ReadMe* for the latest list of qualified devices.

• XDCAM EX devices do not have FTP capability, therefore EX is not supported through this path

For additional information, see the *Avid Interplay Transfer Setup and User's Guide*.

Path E. Third-party Applications that Support the Avid Interplay Web Services API

This path applies to third party applications that take advantage of the Avid Interplay Web Services application programmer interface (API). The third party application performs the following tasks:

• Create separate MXF OP-ATOM media files and AAF metadata files.

• Write the media files to shared storage

• Use the Avid Interplay Web Services to perform a check-in to Interplay through AAF metadata

For additional information, see the documentation for your third party application.

Editing Workflow

No new or modified editing features are required for an end-to-end workflow. However, Avid editing applications now allow full media creation and playback support for all of the specified formats, rates, and modes. This includes the following support:

• Video mixdown

• Consolidation

• Render

• Transcode

• Graphic and Title creation

For information on editing with XDCAM and XDCAM EX material, see "File Based Media" in the Help for your Avid editing application.

If you use a lot of compositing or rendering in your workflow, consider rendering to one of the DNxHD formats. For more information, see "Long GOP Benefits and Limitations" on page 135.

Output Workflow

The output workflow sends the finished product of the edit back to a broadcast recording device or to a playback server. In this workflow, the editing application creates a single MXF OP-1A media file that is a flattened representation of the edited sequence. This requires the editing application to perform all necessary Long GOP editing, rendering, and multiplexing of streams. The playback device is handed a single integrated stream in the desired MPEG-2 format. The audio is uncompressed PCM.

The following illustration shows three Long GOP output paths.
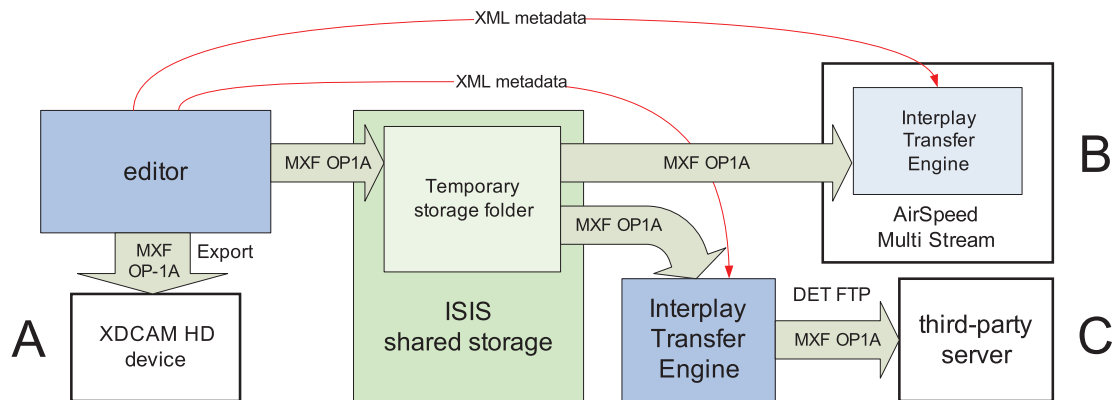
📖 *The FTP transfer to the third party device does not use Generic FTP.*

The output devices in the illustration are marked with the letters A through C. The following sections describe the output paths:

Path A. Editor Export to XDCAM HD Device

The XDCAM HD device mounts on the system using Sony provided drivers, and appears to the Avid editing application as a standard volume. The editing application writes the MXF OP-1A file directly to the device.

📖 *This release does not support export to XDCAM EX devices.*

📖 *You cannot export Long GOP media as QuickTime Same as Source or QuickTime Reference. If you want to use Long GOP material in an application such as Adobe After Effects, first transcode the media to a DNxHD format.*

Paths B. and C. Playout Through AirSpeed Multi Stream or Third-party Server

The following steps describe the workflow for Paths B and C:

- The editor selects a sequence in a bin and chooses the Send To Playback command.
- The editing application performs the following operations:
  - If necessary, perform an audio mixdown
  - If the sequence contains any mixed resolutions, perform a transcode operation.
  - Generate a temporary MXF OP-1A clip and writes it to a Temp folder on shared storage. The application automatically selects a Temp folder on the top level of the workspace with the most free space.

- Send an XML file describing the clip to an Interplay Transfer Engine. The XML file contains the shared storage location and the target location.

• The Interplay Transfer Engine performs the following operations:

- Initiate an FTP transfer of the temporary MXF OP-1A clip file to the target location.

📄 *This step does not use Generic FTP. This Interplay Transfer step is simply a file move operation. The frames are not published to the DHM interface.*

- Delete the temporary clip from the shared storage system after the transfer is complete.

For AirSpeed Multi Stream transfers, the Transfer Engine runs as a separate process on the AirSpeed Multi Stream server. For third-party servers, a separate Transfer Engine server is required.

The editing application writes the temporary file to a Temp folder at the top level of the workspace with the most free storage space. Since the Interplay Administrator typically configures Media Indexers to monitor only the Avid MediaFiles folder on a workspace, the Media Indexer will not be aware of the files in the Temp folder.

Once the Transfer Engine has finished the transfer, it deletes the clip from the Temp folder on shared storage. In an AirSpeed Multi Stream Studio configuration, several servers might need to transfer the same clip. In this context, the deletion of clips from the temporary folder is coordinated between the servers in the configuration.

If the export operation fails, the applications delete the file from the Temp folder as follows:

- If the operation fails during the export from the Avid editing application, the editing application deletes the file from the Temp folder.

- If the operation fails during the FTP transfer, the Interplay Transfer application deletes the file from the Temp folder and displays the status in the Interplay Transfer Status window.

For additional information, see the *Avid Interplay Transfer Setup and User's Guide*.

Performance Considerations

When the editing application performs the Send to Playback operation, it performs a mixdown and transcode if necessary. The mixdown and transcode are typically performed in real time or less depending on the complexity of the sequence. See the *Avid Interplay ReadMe* for details on any limitations associated with the release.

Long GOP Sequences Not Saved in Sent to Playback Folder

Long GOP OP1a sequences that are sent to playback are not copied to the Interplay Access Sent to Playback folder. Interplay Transfer, which performs the send to playback, requires AAF metadata to perform checkins to Interplay Access. In an OP1a transfer, Interplay Transfer does not receive AAF metadata. Instead, it receives the path to an OP1a media file.

Workflow for Background Processing of Long GOP Splicing and Transferring of Long GOP OP1a Media

This section explains the portion of the Long GOP workflow that can be handled by the Avid Interplay STP Encode service instead of the Avid editing application.

The STP Encode service provides background processing that off loads the time-consuming processes involved in Long GOP OP1a exporting and transferring from an Avid editing application. Before you can use the STP Encode service, the workgroup needs an FTP Server profile and the STP Encode provider must be registered with the Interplay Media Services Engine.

If an STP Encode service is not available, a send to playback request is handled in the foreground by the Avid editing application.

Best practices for when to use the STP Encode service:

• Use foreground send to playback processing (no STP Encode service)—when sending short or urgent sequences to a playback device

• Use STP Encode service for background processing—when sending long or non-urgent sequences to a playback device

Performing the Long GOP splicing in the background might not improve on the time it takes to run the process in the foreground. However, by using the background process, you can continue to work with the Avid editing application for other tasks.
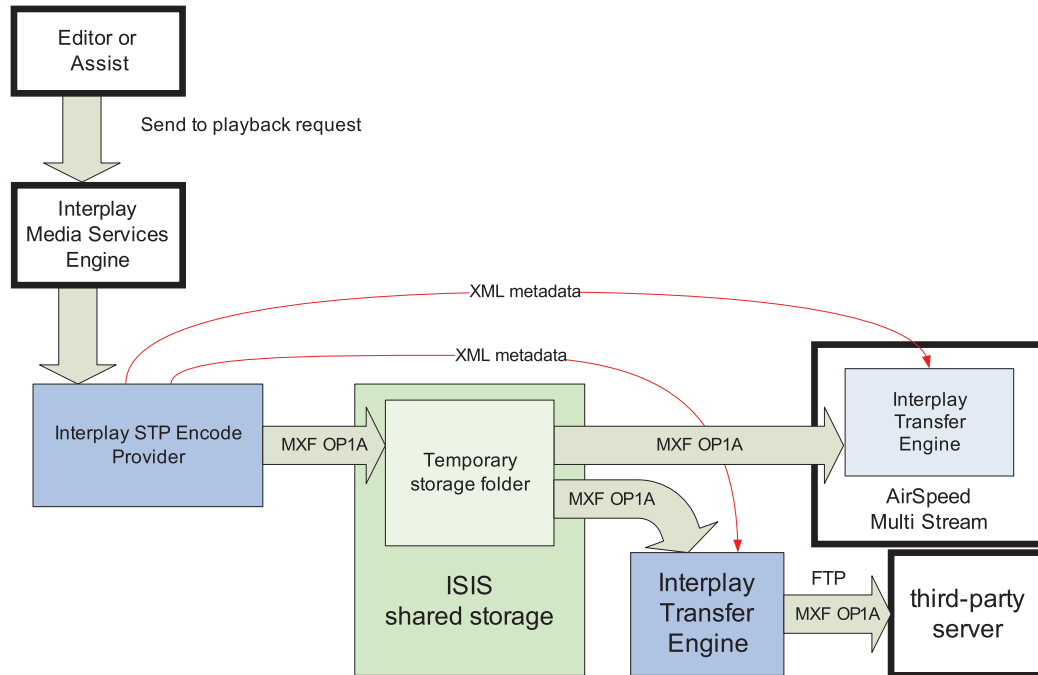
The following steps describe the workflow for playout through AirSpeed Multi Stream or a supported third-party server:

• The editor selects a sequence in a bin and chooses the Send To Playback command.

• The editing application performs the following operations:

- If necessary, performs an audio mixdown.

- If the sequence contains any mixed resolutions, performs a transcode operation.

- Exports the metadata for the sequence composition as AAF file to shared storage in a Temp folder.

- Submits an STP Encode service job for the sequence composition. The STP Encode service exports the MXF OP1a media and sends the appropriate system request to transfer it to the target playback device.

- All audio effects are pre-rendered by the Avid editing application before the sequence is exported and transferred using the STP Encode service. The Interplay STP Encode service can render real-time video effects. However, you have to pre-render any static video effects before exporting the sequence as an STP Encode job.

- The Interplay STP Encode provider performs the following operations:

    - Generates a temporary MXF OP1A clip and writes it to a Temp folder on shared storage. The application automatically selects a Temp folder on the top level of the workspace with the most free space.

    - Sends an XML file describing the clip to an Interplay Transfer Engine. The XML file contains the shared storage location and the target location.

- The Interplay Transfer Engine performs the following operations:

    - Initiates an FTP transfer of the clip to the target location.

    - Deletes the temporary clip from the shared storage system after the transfer is complete.

For AirSpeed Multi Stream transfers, the Transfer Engine runs as a separate process on the AirSpeed Multi Stream server. For third-party servers, a separate Transfer Engine server is required.

The STP Encode provider writes the temporary file to a Temp folder at the top level of the workspace with the most free storage space. Since the Interplay Administrator typically configures Media Indexers to monitor only the Avid MediaFiles folder on a workspace, the Media Indexer is not aware of the files in the Temp folder.

In general, you should make sure that your Media Indexers do not monitor entire workspaces. They should point to the specific Avid MediaFiles folders that you want to monitor.

After the Transfer Engine has finished the transfer, it deletes the clip from the Temp folder on shared storage. In an AirSpeed Multi Stream Studio configuration, several servers might need to transfer the same clip. In this case, the deletion of clips from the temporary folder is coordinated between the servers in the configuration.

If the export operation fails, the applications delete the file from the Temp folder as follows:

- If the operation fails during the export from the STP Encode provider, the STP Encode provider deletes the file from the Temp folder.

- If the operation fails during the FTP transfer, the Interplay Transfer application deletes the file from the Temp folder and displays the status in the Interplay Transfer Status window.

For additional information on STP Encode, see the *Avid Interplay Media Services Setup and User's Guide*. For additional information, see the *Avid Interplay Transfer Setup and User's Guide*.

Long GOP OP1a sequences that are sent to playback are not copied to the Interplay Access Sent to Playback folder. Interplay Transfer, which performs the send to playback, requires AAF metadata to perform checkins to Interplay Access. In an OP1a transfer, Interplay Transfer does not receive AAF metadata. Instead, it receives the path to an OP1a media file.

8 720p MultiRez Workflow

This chapter describes a 720p MultiRez workflow. It is similar to other MultiRez workflows except that it always requires a transcode operation to create the low-res proxy.

This document covers the following topics:

- Overview of the 720p MultiRez Workflow
- Editor MultiRez Workflow for 720p
- 720p MultiRez Workflow Components
- Setting Up the Media Services Profiles for a 720p MultiRez Workflow

Overview of the 720p MultiRez Workflow

Interplay v2.0 supports low-res proxy media for 720p high-res media. The supported resolutions are as follow. AVCI stands for AVC intra-frame.

Format	Resolution	Avid Editor Interface Name
NTSC	720p/59.94 (H.264)	AVCIBP-BLL3.0 60
PAL	720p/50 (H.264)	AVCIBP-BLL3.0 50

In a MultiRez workflow a media manager or Interplay administrator archives most of the high-res material to a robotic tape library and maintains a low-res version online. For example, a sports station may capture high res media for entire sporting events with a duration of three or four hours each. After archiving, the media manager deletes the online high-res material and maintains the low-res material online. The low-res material is stored on line partly to allow editors to work with it and partly as a reference for the material in the archive.

The following illustration shows the main stages of the workflow.

Editor or
CaptureManager

Capture 720p HD media

Editor or Access

Transcode to 720p proxy

Editor

Work with low-res proxy
in the editing application

Editor or Access

Perform a partial restore
to restore only the
portions used in the
sequence

Access

Archive the high-res
media and delete
high-res from online
shared storage

Access

Search for clips in order
to restore from archive

Access

Restore clips from the
archive and make
available to editors

The above illustration shows two methods for restoring the high-res material. For example, if the media manager gets a request for the entire game played on 6/12/09, he or she can use Interplay Access to search for it and restore the entire clip from the archive. An editor can also search for the clip in the online database and begin working directly with the low-res version. After the editor finishes the sequence, he can perform a partial restore and restore only the portions of the game that are in the sequence, rather than restoring the entire sporting event from archive.

Editor MultiRez Workflow for 720p

The editor can begin working with the media as soon as it is transcoded to the low-res proxy. In fact, the archiving and deleting of the high-res material can go on in the background while the editor is working. This section describes the editor's portion of the workflow. The details of transcoding, archiving, and restoring are covered later in the chapter. See "Working with a MultiRez Clip in the Editor and Performing a Partial Restore" on page 147.

Working with a MultiRez Clip in the Editor and Performing a Partial Restore

This section describes the following topics:

- Opening a 720p project and checking out the clip
- Setting Dynamic Relink to work with the low-res proxy
- Performing a partial restore to restore the portions of the clip used in the sequence.
- Using Dynamic Relink to start working with the high-res material.

To set up a 720p project:

1. When you create the project, make sure it supports the resolution you want to use. For example, the following illustration shows the Project selection dialog box used in this example.
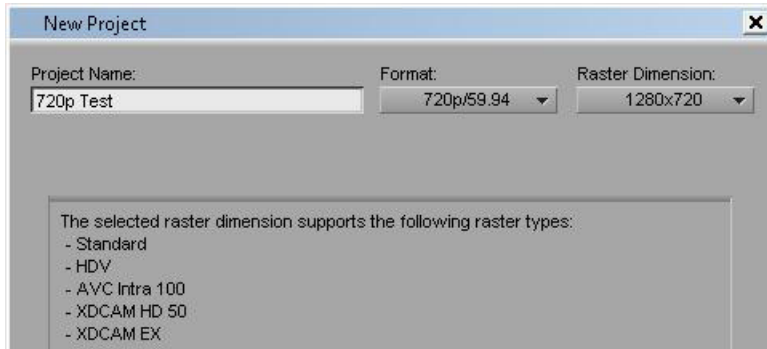
To check out the clip and set Dynamic Relink:

1. Select Tools > Interplay Window.

2. Locate the clip in the Interplay Window and drag it to the bin.

   The following illustration shows the clip in the Interplay window and the bin. Notice that the clip has been transcoded and both the high-res and low-res are online.

high-res and low-res media is online
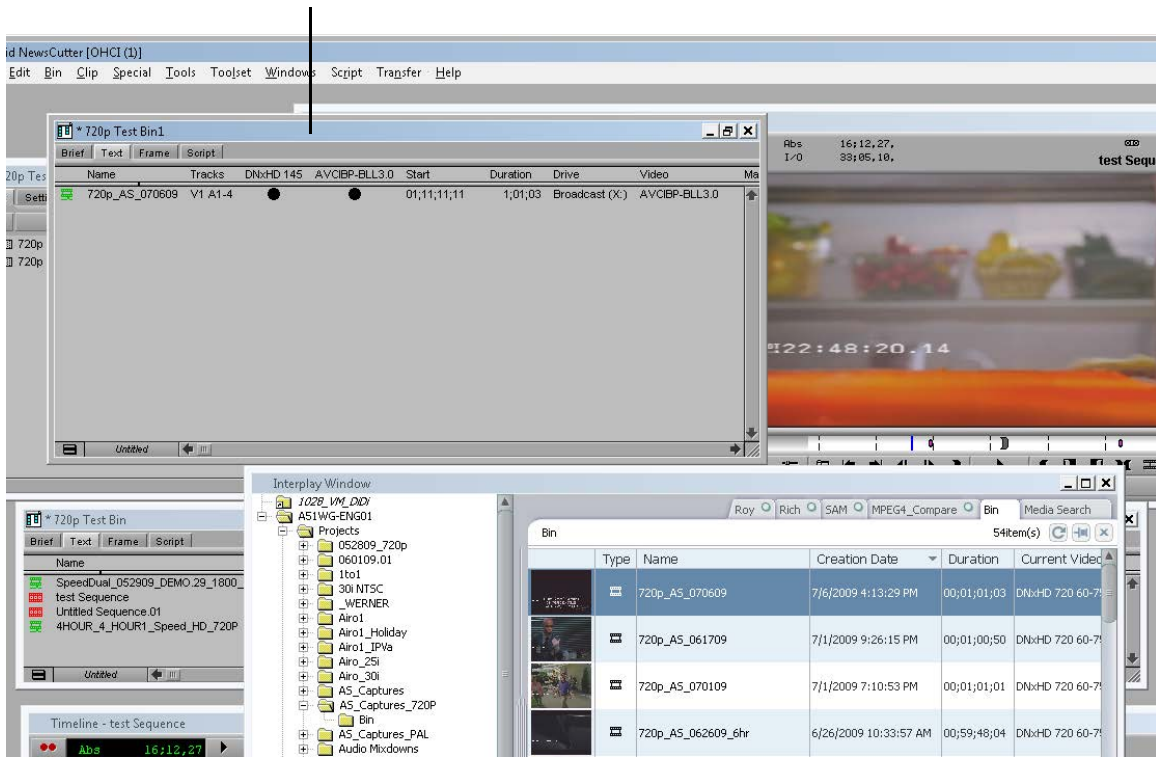
3. Open the Dynamic Relink dialog box and set the working resolution to the low-res proxy.

The following illustration shows the Dynamic Relink values used in this example to link to the low-res media.
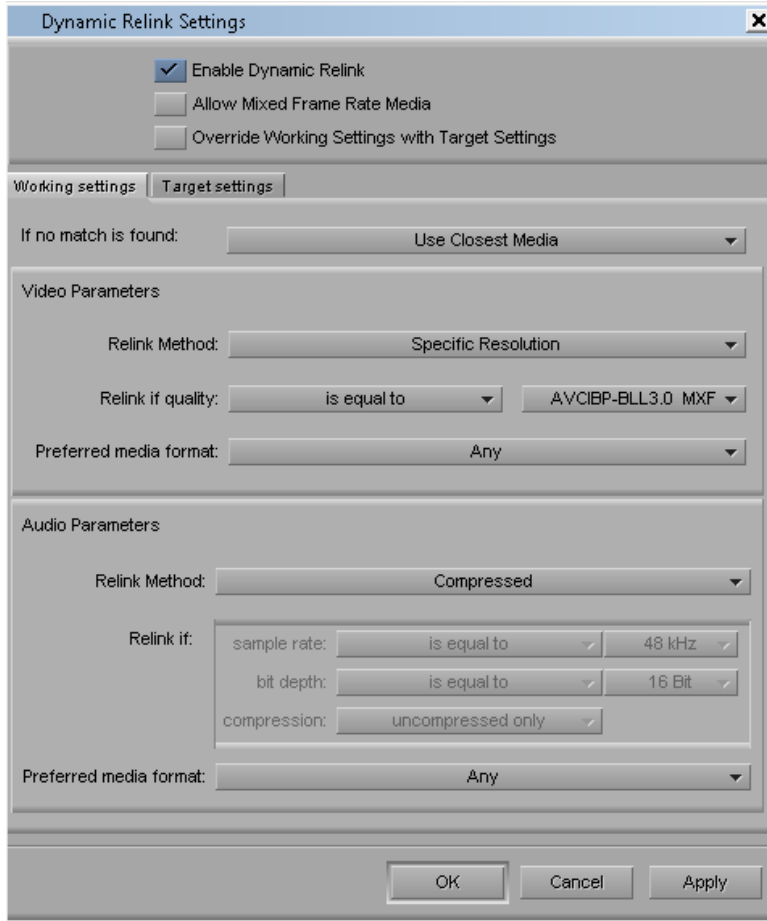
4. Edit the low-res media into a sequence.

   The following illustration shows the bin after the sequence is created. Notice that at this point the high-res material has been deleted and is showing completely offline.

high-res has been deleted and is completely offline
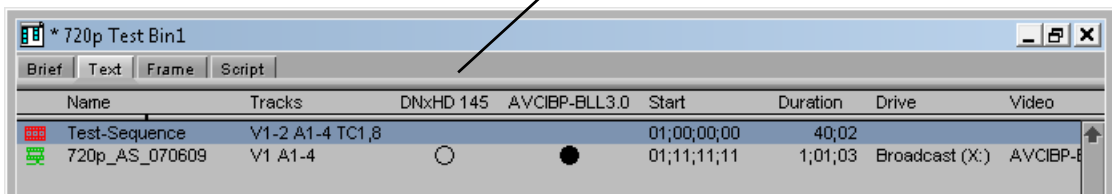
5. When you are finished editing the sequence, right-click the sequence in the bin and select
   Restore. Select a profile that is set up to perform partial restore. The following illustration
   shows the Restore profile used in this example.

   If the profile that you choose is set up to perform partial restores, the application restores
   only the portion of the clip that is in the sequence.
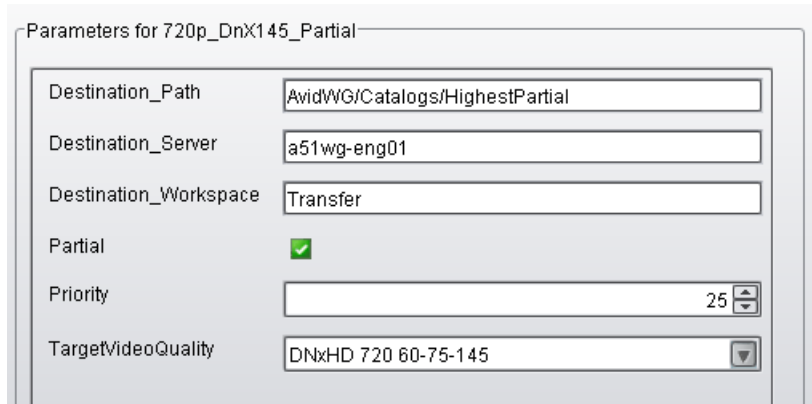
The following illustration shows the bin after the partial restore operation is completed. The
high-res media is now partly online.
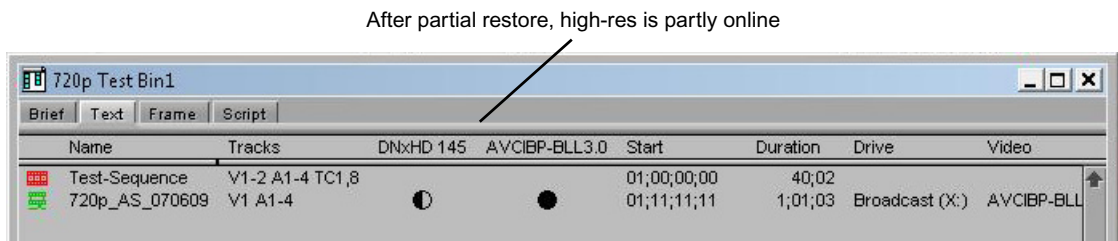
6. Open the Dynamic Relink dialog box and set the working resolution to the high-res version.

   The following illustration shows the Dynamic Relink values used to link to the high-res
   video and audio in this example. This is linking to a specific resolution. You could also link
   to the highest available resolution.
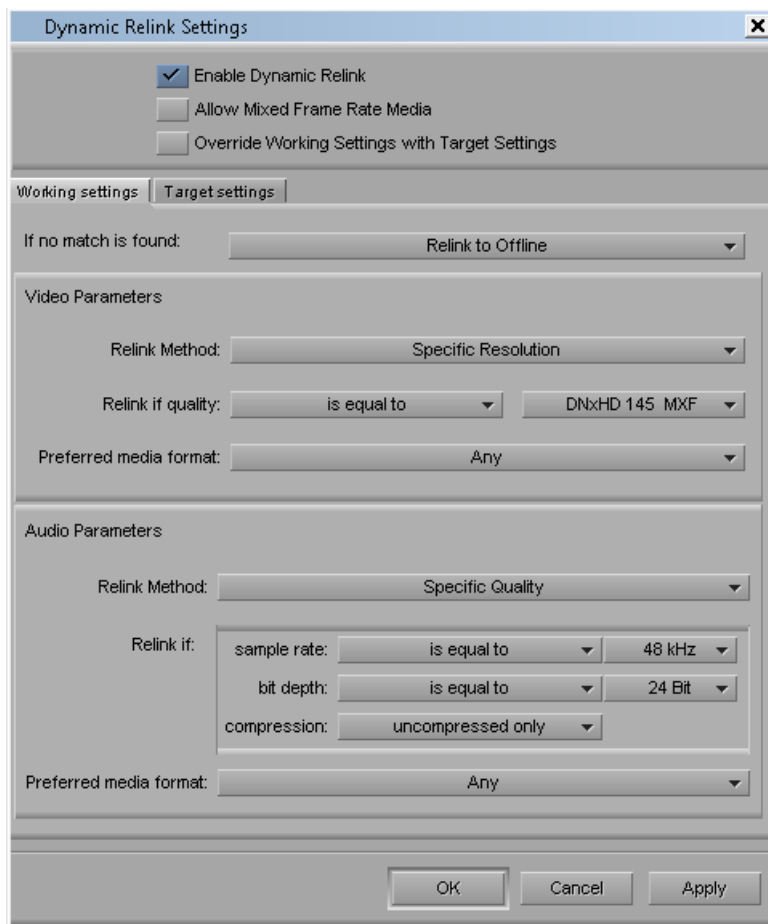
7. Now you can work with the restored high-res material.

720p MultiRez Workflow Components

The following topics describes the different aspects of the 720p proxy workflow:

- Capturing High Res 720p Material
- Transcoding to 720p Proxy
- Archiving the High Res 720p Material
- Deleting the High Res Media
- Searching for and Restoring High Res Master Clips
- Performing a Partial Restore

Capturing High Res 720p Material

You can capture 720p high-res material directly from the editing application or using CaptureManager. This example assumes that you are capturing DNx145 720p/59.94 media. For additional information, see the following:

• For information on capturing from within the Avid editing application, see the editing application Help or the Basics Guide for your editing application.

• For information on using CaptureManager, see the *Avid CaptureManager User's Guide*.

Transcoding to 720p Proxy

Transcoding is the only way to obtain 720p proxy material. You have the following choices for transcoding:

• Right-click the clip within the Avid editing application, select Media Services > Avid Interplay Transcode Service and choose a profile.

The editor Consolidate/Transcode operation does not create the 720p proxy for this release.

• Right-click the clip within Interplay Access and select Transcode.

• Set up an Auto Transcode folder in Interplay Access and drag and drop clips to the folder.

For additional information, see the Interplay Help or the *Interplay Media Services Setup and User's Guide*.

To transcode a clip from within Interplay Access:

1. Right-click the clip in Access and select Transcode.

   The Transcode profile dialog box opens.
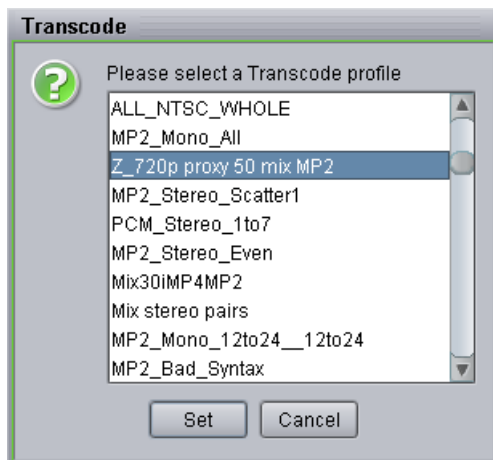
2. Select the profile and click Set.

The Transcode service transcodes the clip and stores the media according to the instructions in the profile. The new media is associated with the original clip metadata. The following illustration shows the low-res proxy in the Interplay Window. You can see that the current resolution for the clip is AVCIBP-BLL3.0.60. This is the Avid editing application representation for 720p/59.94 proxy media.
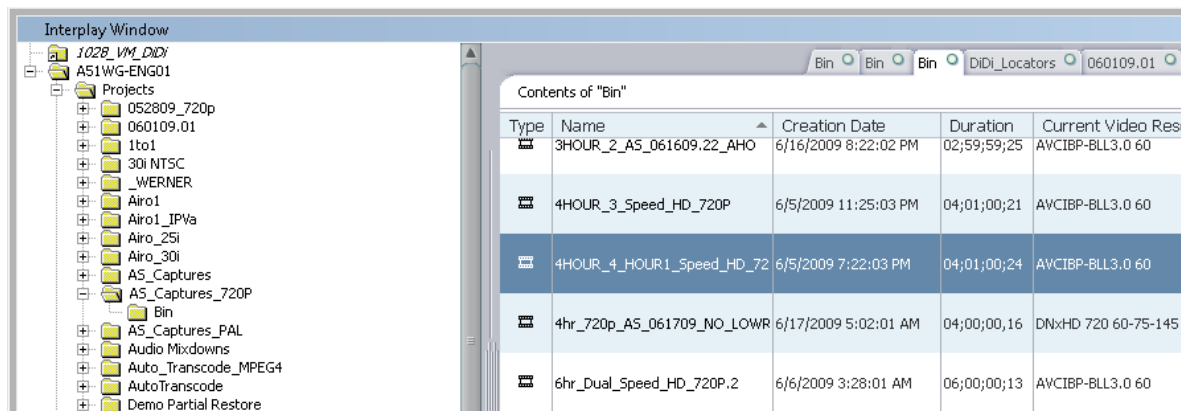
To begin working with the media, drag it to an Avid editing application bin and modify your Dynamic Relink settings to use the low-res proxy as your working resolution. See "Editor MultiRez Workflow for 720p" on page 147.

Archiving the High Res 720p Material

You can use Interplay Access or the Avid editing application to archive the high-res material: Both techniques use a Media Services profile as described in "Archive Profile" on page 167.

📄 *You can also set up an Auto Archive folder and use Interplay Access to drag and drop files to archive into the folder. For additional information, see the* Interplay Media Services Setup and User's Guide.

To archive the high-res material:

1. Start Avid Interplay Access.

2. Select the asset that you want to archive from the online database.

3. Select Tools > Archive or right-click the asset and select Archive.

The Archive dialog box opens.
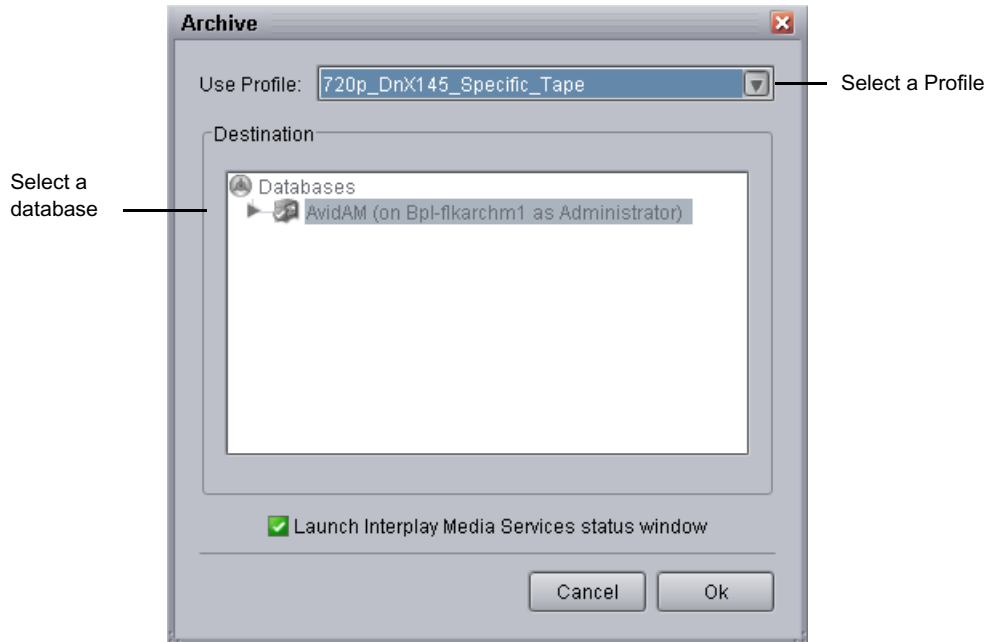
4. Select a profile from the Use Profile menu. See "Archive Profile" on page 167.

📖 *Avid recommends that you use profiles for archiving, because profiles define many key settings such as target folders and archive partitions. For example, if you do not use a profile with an SGL archive implementation, the system uses the default SGL archive volume name. If this volume is not defined on the SGL system, the archive operation will fail.*

5. (Option) Select "Launch Interplay Media Services Status window."

6. Click OK.

   The system starts the Archive operation. The following illustration shows the Media Services and Transfer Status tool with the archive operation in progress.

Archive in progress

7. (Option) For details about the job, select the job and click the Details button.:

8. (Option) Navigate to the destination folder in the archive database and verify that your file has been archived.

The following illustration shows the clip in the Archive database.

Archive database
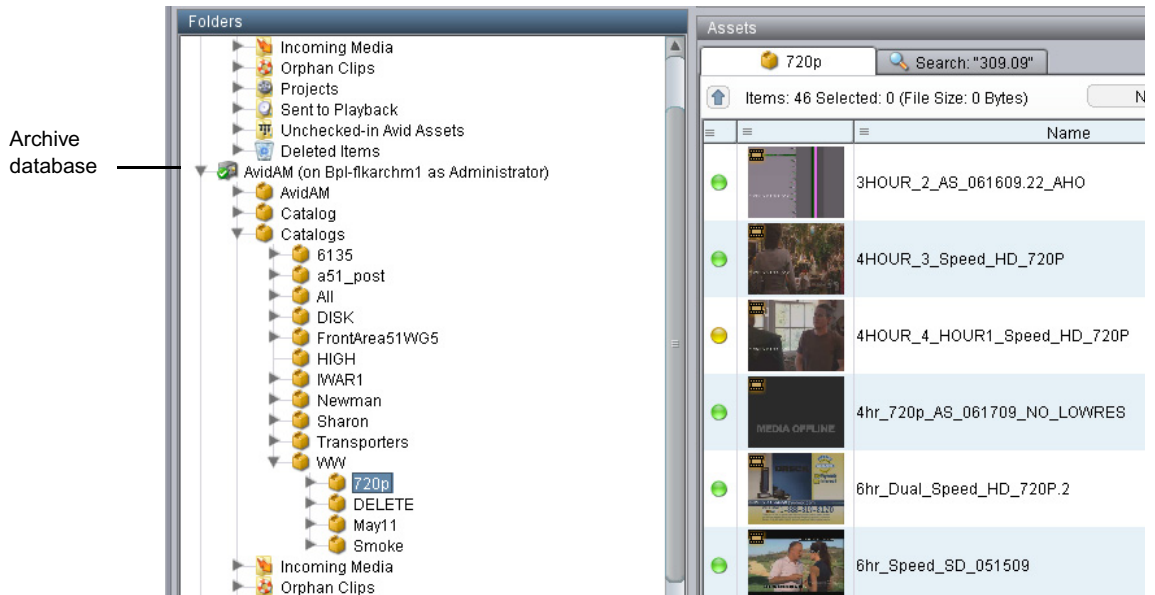
Deleting the High Res Media

After the high-res material is archived, you can delete the online version. Use the Delete dialog box in Interplay Access to select Avid assets for deletion. You have the option of deleting the assets only, the media only, or both assets and media. Delete only the high-res media associated with the master clips; do not delete the master clips or the low-res proxy. For additional information on deleting assets and media, see the *Interplay Access User's Guide* and the *Interplay Best Practices* Guide.

To delete the high-res media:

1. In the Interplay Access Content tab, select the assets you want to delete.

   You can select multiple folders or clips for deletion. You can also delete folders by selecting them in the tree structure in the Folders pane.

2. Do one of the following:

   ▶ Right-click and select Delete.

   ▶ Press the Delete key.

   The Delete dialog box opens, displaying information about the items you selected. It also displays the amount of disk space that would be freed if you delete the media files. No items are selected for deletion until you select them in the Delete dialog box.

The following illustration shows the results of selecting a master clip for deletion. The master clip is associated with both high-res and low-res media files but you are only deleting the high res material. Leave the master clip and low res material online.
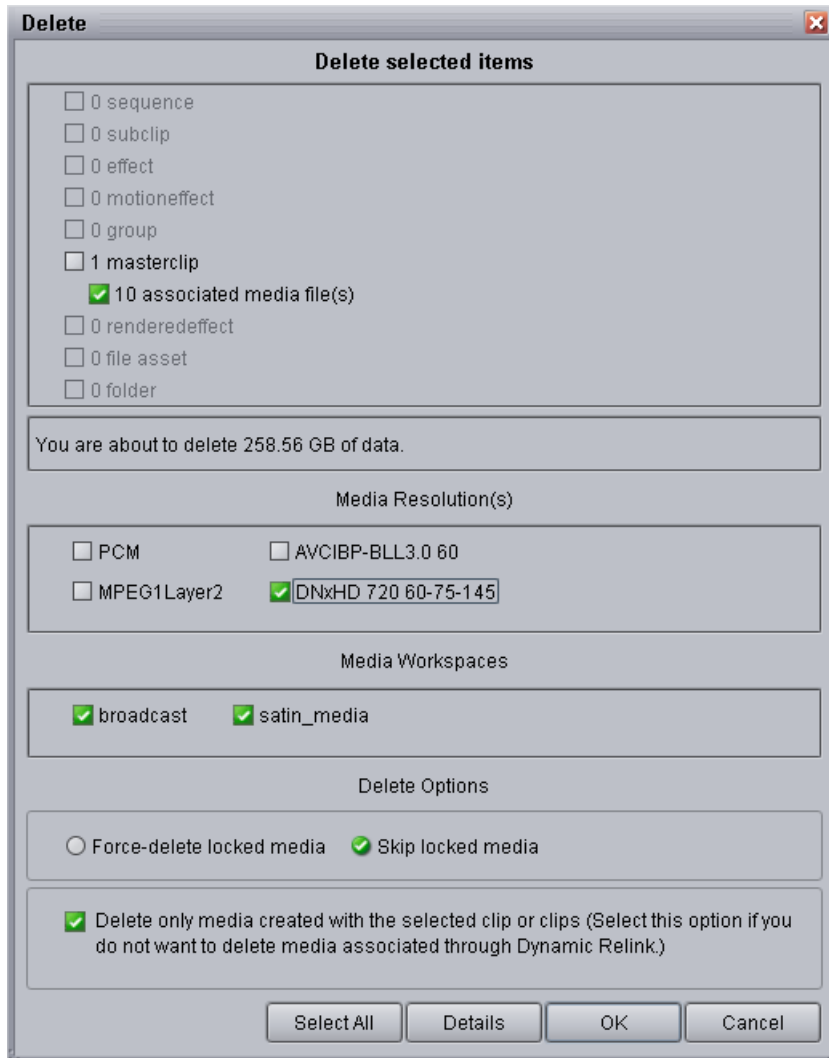
3. In the "Delete selected items" area, deselect the master clip as shown in the above illustration. Keep the associated media files box checked.

4. Specify the media that you want to delete.

    a. Select the resolutions you want to delete.

       The Media Resolutions section of the dialog box lists all video resolutions and audio formats for the clips you selected, including media associated through the Dynamic Relink feature. All resolutions are selected by default. Deselect the resolutions you want to keep. In this example, deselect the low-res media and keep the high-res DNxHD media selected for deletion.

    b. Select which workspaces you want to delete media from.

       All workspaces that contain the selected media are listed and are selected by default.

    c. Select whether to force the deletion of media files locked by an editor or to skip deletion of locked files.

       These options are available only if the user has administrative rights or if they are enabled by an administrator. "Skip locked media" is the default.

    d. Select "Delete only media created with the selected clip or clips." This ensures that you only delete the media that was originally created with the clip.

Beginning with Interplay v2.0, the "Deselect only media..." option is selected by default.

5. (Option) Click Details to determine if any clips are reserved.

   The Clips Reserved dialog box opens. Any clips with reservations are listed, along with information about the clips. If you have the proper privileges, you can override the reservations. Otherwise, click Cancel.

6. When you are ready to delete the files, click OK in the Delete dialog box.

   The Delete in Progress dialog box displays the status of the deletion.

7. When the delete operation is completed, click Done.

Searching for and Restoring High Res Master Clips

You can select a sequence or master clip for restoring from the archive. This example assumes the following:

• high-res media is in the archive and the corresponding low-res proxy media is online.

• You can search the online database for clips meeting specific criteria, view the low-res proxy, and then decide which clips to restore them from the archive.

• You can also search the archive database for clips to restore.

To search the online database for clips:

1. In the Assets view, click the Search tab.

2. Click the Simple tab. If necessary, click the Search Conditions arrow to show the search criteria.
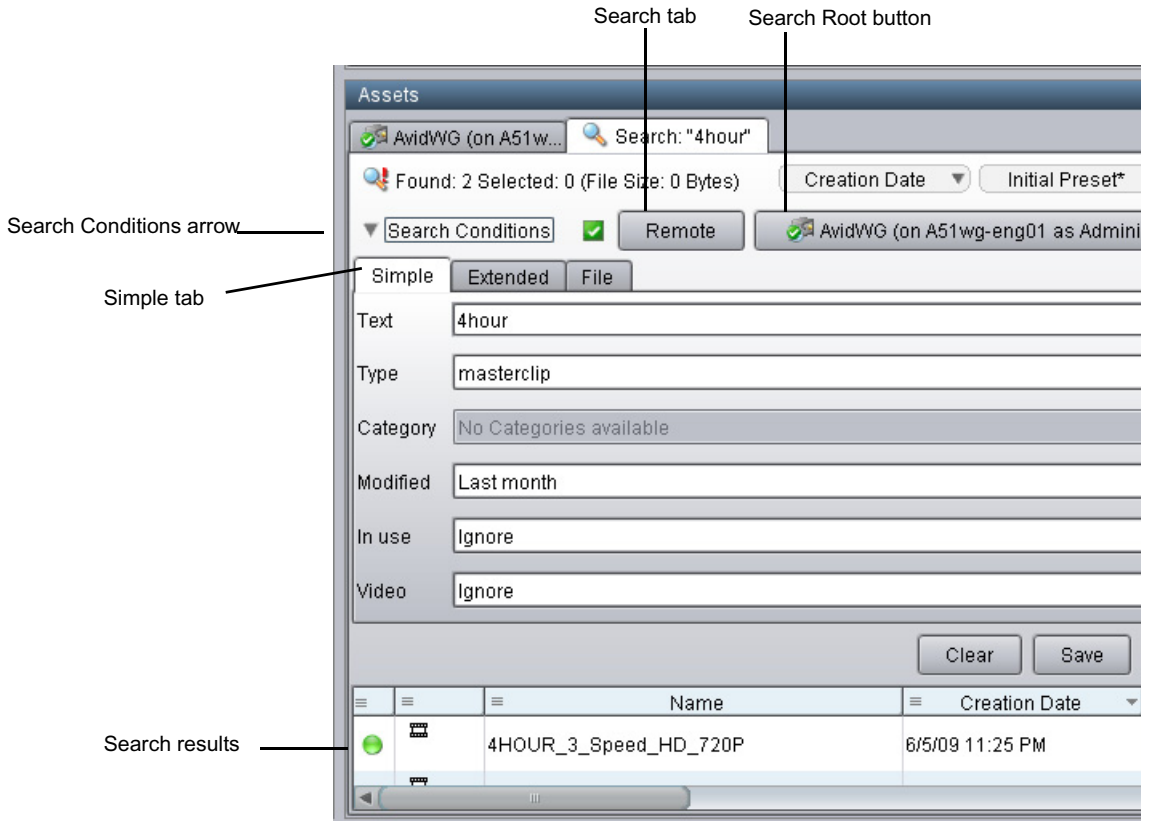
3. Select a search root folder by doing one of the following:

   ▸ Use the Search Root button to select the archive database.

   ▸ Click a folder in the Tree view and drag it onto the Search Root button.

   The Search root button displays the database or folder you selected to search.

4. Type the text or select the attributes and values you want to use for the search. In this example, the desired clip name contains the text "4hour", it is a master clip, and it was created within the last month.

If you do not select any criteria, the search returns all the records in the database.

5. Click the Search button.

   The Search button changes to a Stop button, which you can click if you want to stop the search. The results are displayed in the Search Results pane. They are visible until you close Avid Interplay Access or until you perform a new search.

   For additional information on searching and search criteria, see the *Interplay Access Users Guide*.

To search for a clip in the archive database:

1. Connect to the archive database.

2. Click the Search tab in the Avid Interplay Access window.
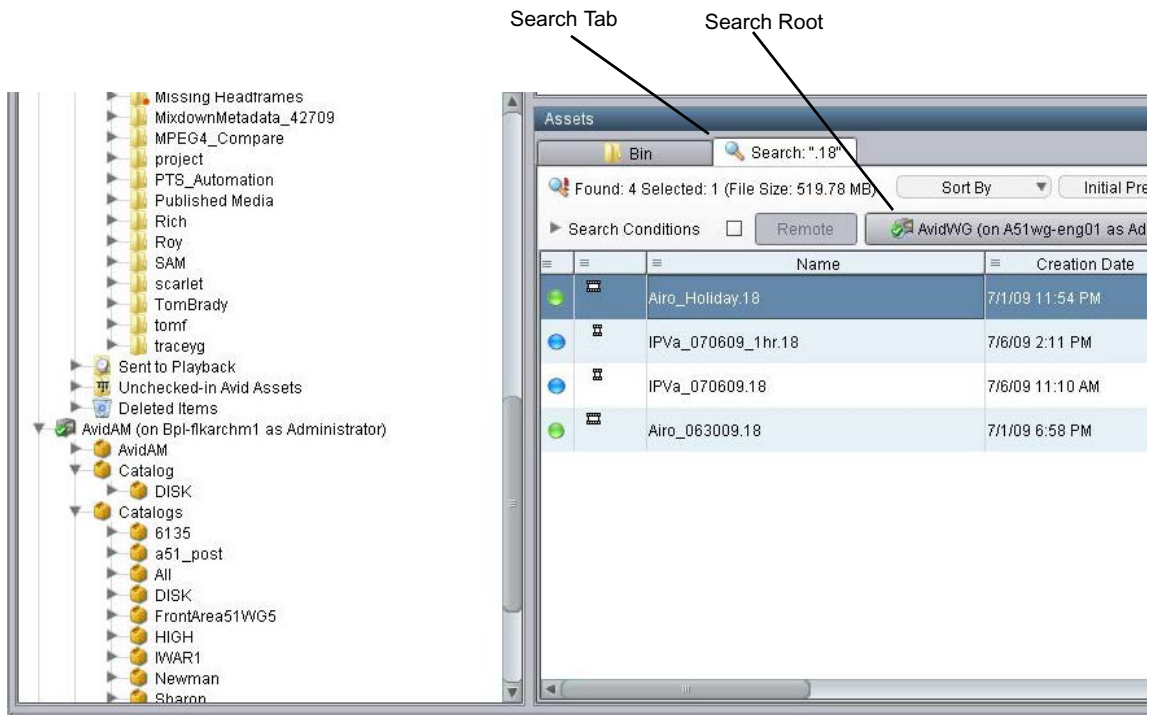
3. Click the Search Root button

   The Choose Search Root dialog box opens.
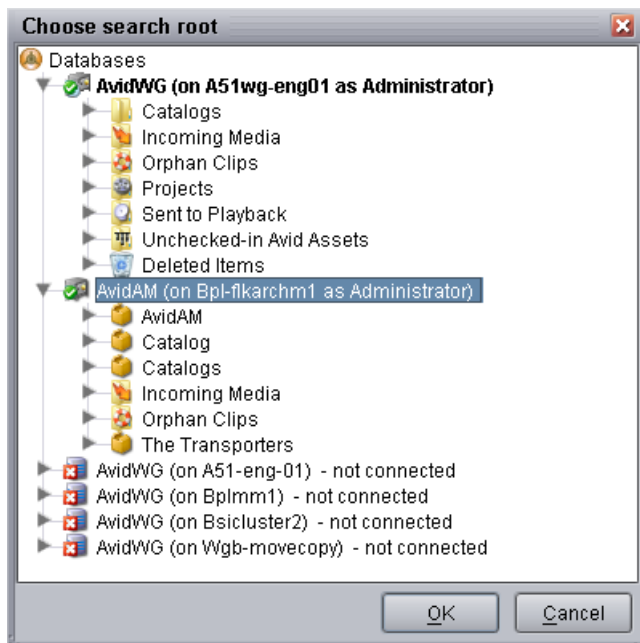
4. Select the Archive database (AvidAM) and click OK.

📖 *If necessary, expand the bottom of the window to display the Search Results area.*

5. Type the name (or a portion of the name) of the clip you want to search for and select the appropriate search criteria.

6. Click the Search button.

   The system displays the search results. In this example, one master clip in the archive database has the text "4HOUR" in its name.
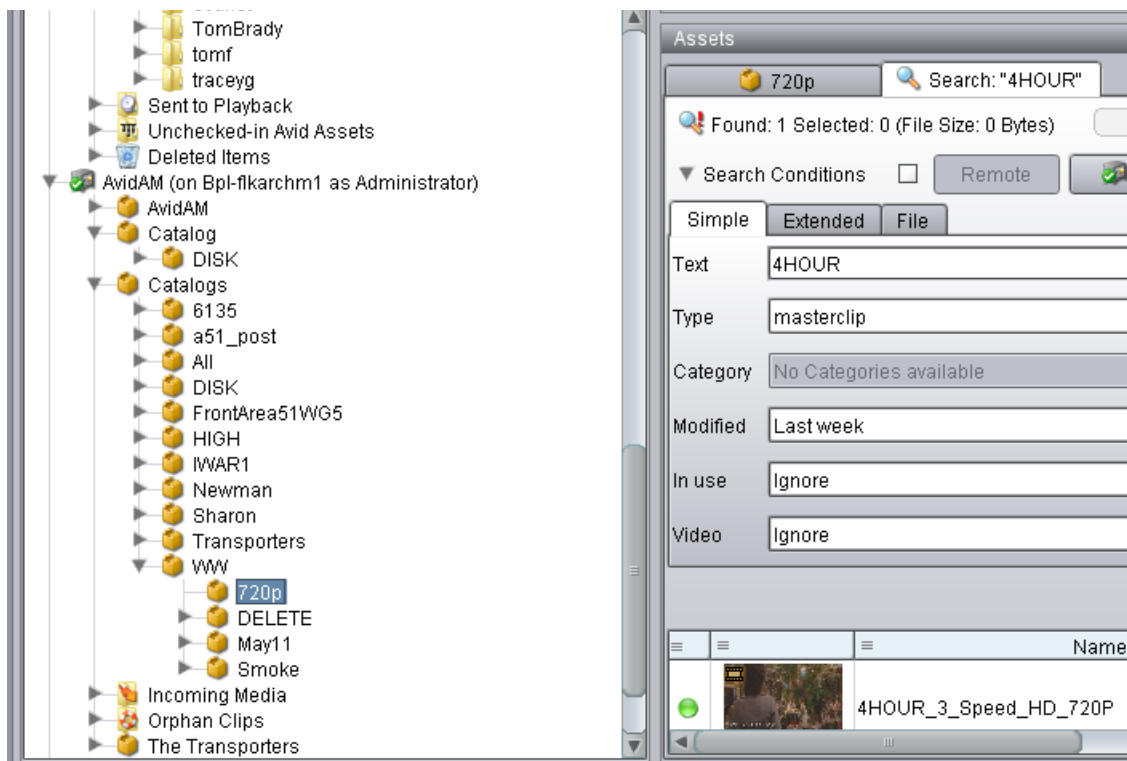
Restoring a Full Clip from the Archive

This example uses the results of a search to select a clip to restore. You can also use the Tree view to locate the clip you want to restore.

To restore a clip located in the Search Results area of the Avid Interplay Access:

1. Make sure the Media Services Engine application and Avid Interplay Archive service are connected. See "Verifying a Service Provider Is Connected" in the Interplay Help or the *Interplay Media Services Setup and User's Guid*e.

2. Right-click the clip in the Search Results area and choose Restore.

Archive database — Tree view — Search results
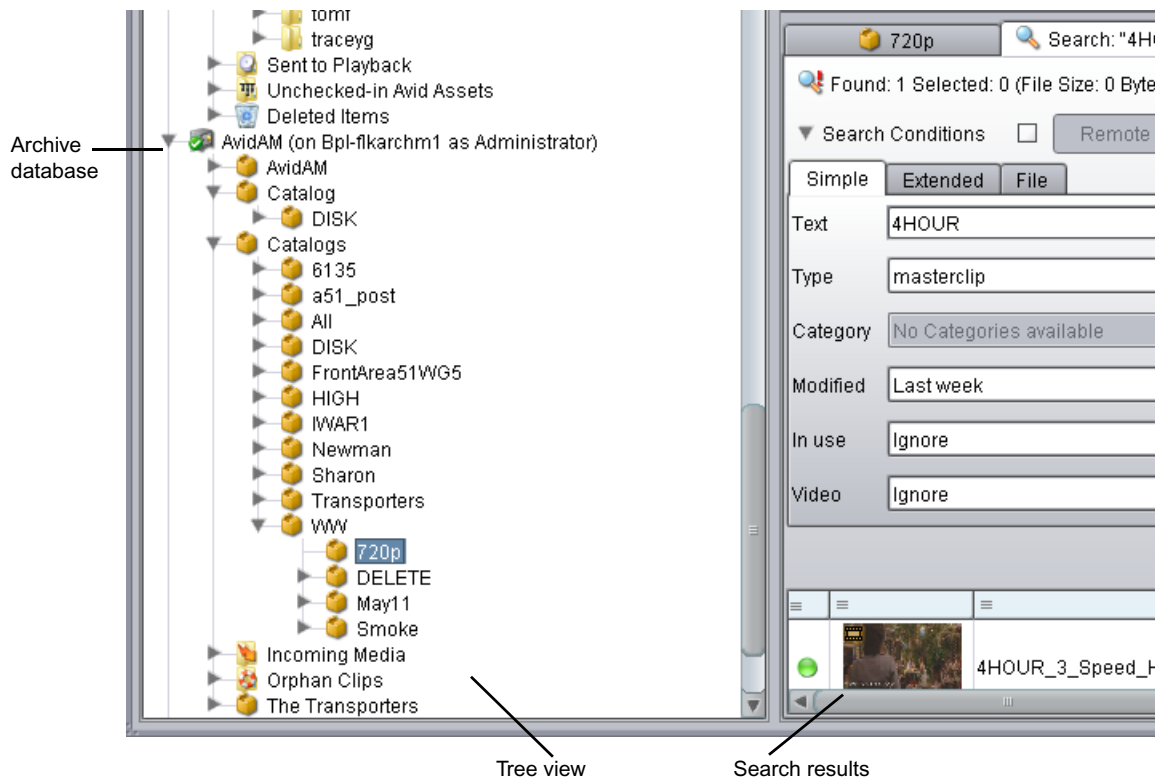
The Restore dialog box opens.

3. Select a profile from the Use Profile menu. For information about profiles, see "Creating Profiles" on page 165.

4. Click OK.

The system performs the restore operation. You can use the Media Services Status window to view the progress and results of the restore operation.

5. (Option) Navigate to the destination folder in the Avid Interplay Access window and verify that the clip was restored.

6. Make sure Enable Dynamic Relink is selected to view the restored media.

Performing a Partial Restore

For a description of how to perform a partial restore, see "Working with a MultiRez Clip in the Editor and Performing a Partial Restore" on page 147.

Setting Up the Media Services Profiles for a 720p MultiRez Workflow

This workflow requires a number of Media Service profiles for the transcode, archive, and restore operations. This section describes the profiles. For details on creating a profile see the Interplay Help or the *Interplay Media Services Setup and User Guide*.

Creating Profiles

This example uses the following profiles:

- Transcode high-res DNxHD 720p material to 720p proxy
- Archive the high-res material
- Restore high-res clips from the archive
- Perform a partial restore of clips or subclips that are part of a sequence.

To use the Media Services application to create a profile:

1. In Interplay Access, select View > Media Services Status.
2. Click the Profiles tab and select the Provider from the Service menu in the top left-hand window.

The following illustration shows the Avid Interplay Transcode Service provider selected.
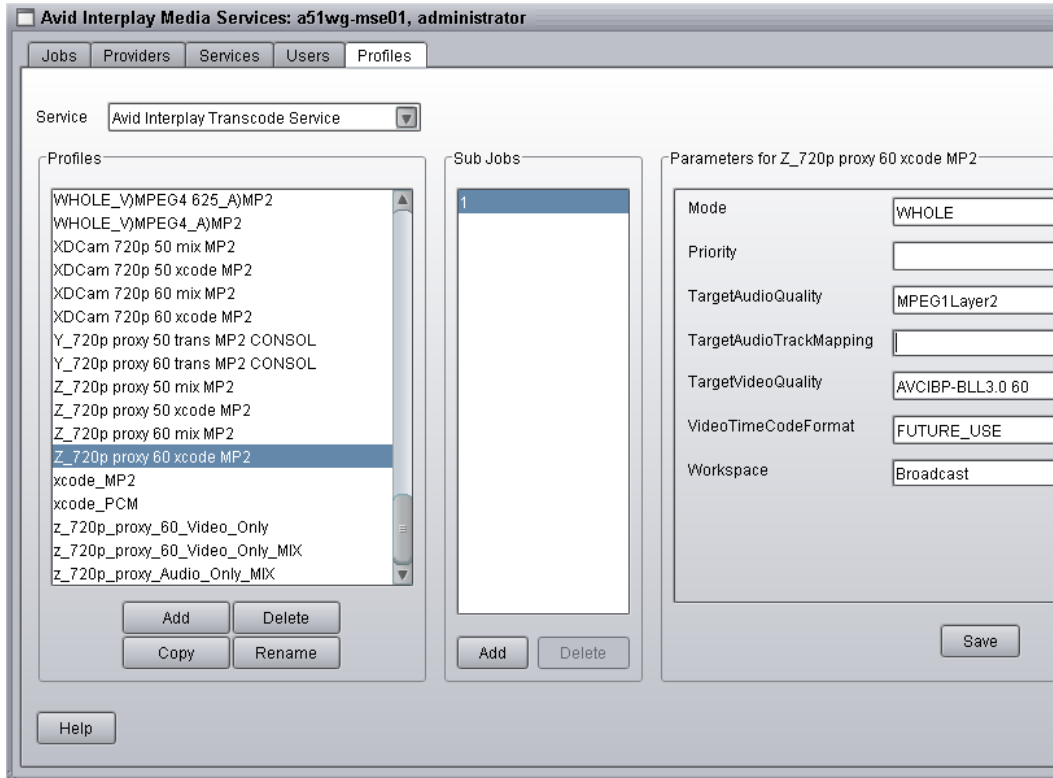
3. Click Add and type in a name for the new profile.

4. Add the appropriate values and click Save.

   For more information on creating profiles, see the Interplay Help or the *Avid Interplay Media Services User and Setup Guide*.For examples of the profiles used in this workflow, see "Media Service Profile Examples" on page 167.

Media Service Profile Examples

This section shows examples of the profiles used in this workflow.For information on parameter values, see the Interplay Help or the *Avid Interplay Media Services User and Setup Guide*.

Transcode Profile

The following illustration shows a typical 720p Transcode profile. This profile creates low-res proxy video and compressed audio.
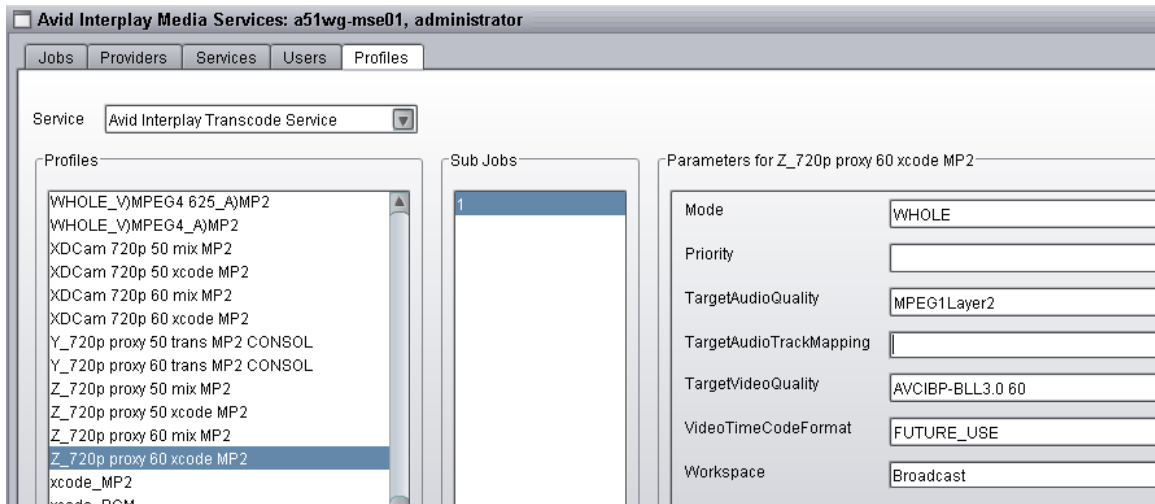
Parameter	Value
Mode	Whole
Priority	50
TargetAudioQuality	MPEG1LAYER2
TargetAudioTrackMapping	blank
TargetVideoQuality	AVCIBP-BLL3.0 60
VideoTimeCodeFormat	FUTURE_USE
Workspace	Broadcast

Archive Profile

The following illustration shows an archive profile.
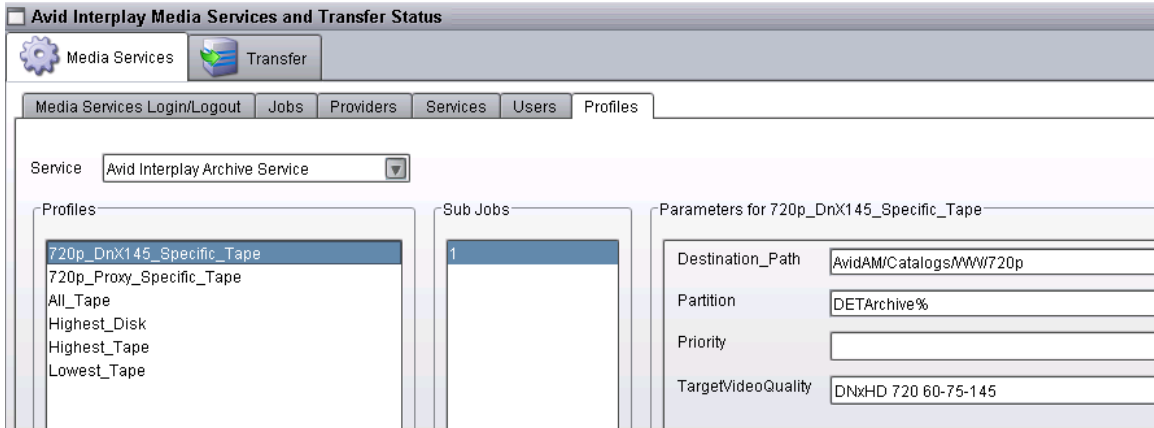
Parameter	Value
Destination_Path	AvidAM/Catalogs/WW/720p
Partition	DETArchive%
Priority	50
TargetVideoQuality	DNxHD 720 60-75-145

Full Restore Profile

The following illustration shows a profile used for restoring full clips from the archive. Note that Partial is not checked.
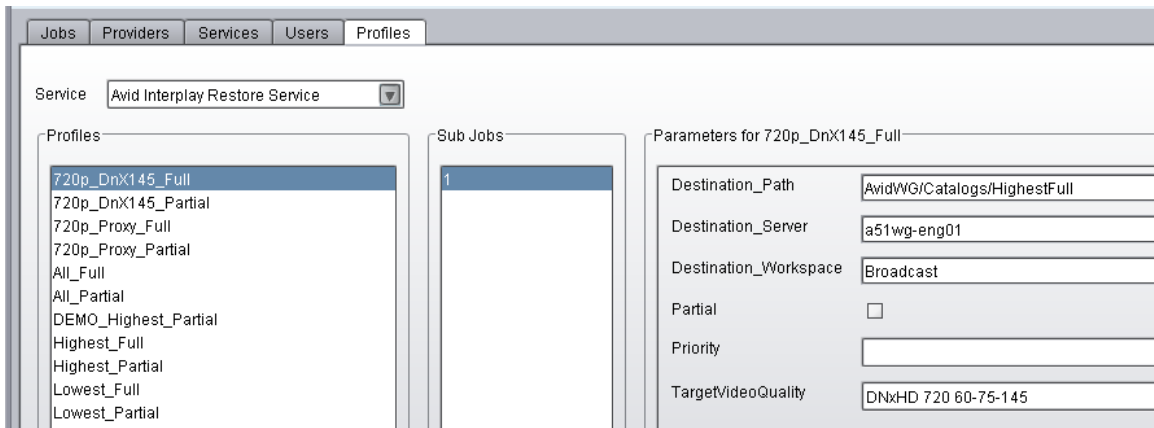
Parameter	Value
Destination_Path	AvidWG/Catalogs/HighestFull
Destination_Server	a51wg-eng01
Destination_Workspace	Transfer
Partial	Not checked
Priority	50
TargetVideoQuality	DNxHD 720 60-75-145

Partial Restore Profile

The following illustration shows a profile used to perform a partial restore of 720p high-res material. This profile only restores a specific resolution: DNxHD 720 60-75-145. You could also select "Highest" and restore the highest available resolution.
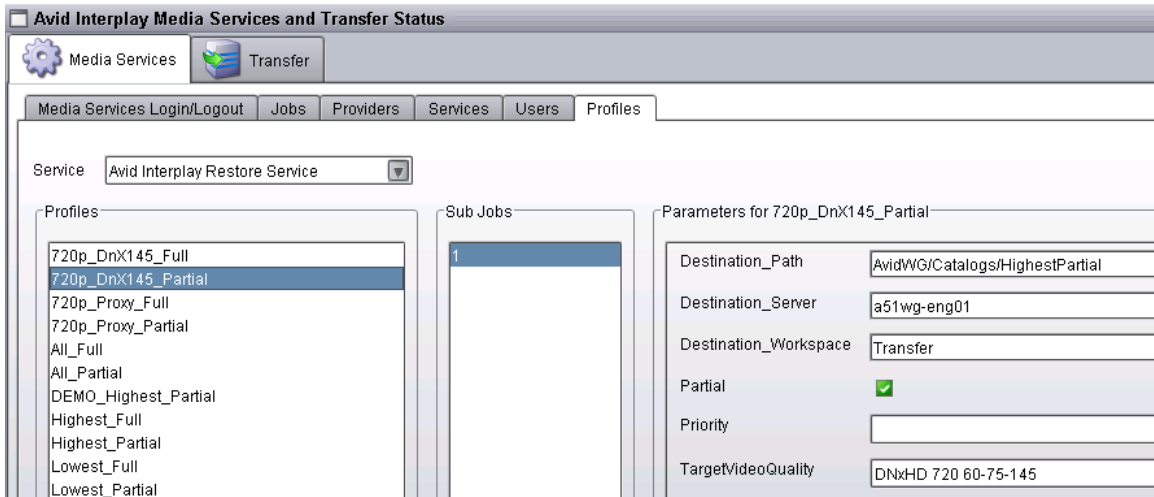
Parameter	Value
Destination_Path	AvidWG/Catalogs/HighestPartial
Destination_Server	a51wg-eng01
Destination_Workspace	Transfer
Partial	Checked

Parameter	Value
Priority	50
TargetVideoQuality	DNxHD 720 60-75-145

9 H.264 End-to-End MultiRez Workflow

The following topics describe stages in a MultiRez workflow that uses H.264 low-res proxy media for editing and high-res media for output, both ingested through an AirSpeed Multi Stream server. They also describe a workflow that uses Interplay Transcode to create the low-res proxy media.

- H.264 Resolutions Supported by Interplay
- Installation and Configuration for an H.264 Workflow
- Acquiring Media for an H.264 Workflow
- Editing with H.264 and High-Res
- Archiving, Restoring, and Deleting H.264 and High-Res Media

There are specific settings for ingest of H.264 proxy media through an AirSpeed Multi Stream server. Otherwise, this dual-ingest workflow is similar to a dual-ingest workflow with two devices and MPEG-4 proxy media.

H.264 Resolutions Supported by Interplay

H.264 is a low-res proxy format intended for low bit-rate applications. The proxy is a Baseline profile, Level 3.0 H.264 bit stream, which limits the raster size and bit rate of the compressed data. Interplay supports both 800 Kbps and 2.0 Mbps versions of H.264 media.

H.264 800 Kbps Proxy Resolutions

Interplay version 2.3 and later supports an end-to-end workflow for H.264 800 Kbps proxy resolutions. You can ingest H.264 800 Kbps material (through AirSpeed Multi Stream only), work with it in an Avid editing application, check it in and out of the Interplay database, and process it through Interplay Media Services and Interplay Transfer. You can use Interplay Transcode to transcode from another resolution to H.264 800 Kbps.

Avid editing applications cannot create H.264 proxy resolutions. They can be created only through dual ingest from AirSpeed Multi Stream or by using the Interplay Media Services Transcode service to transcode or mix down a clip or sequence to one of the Avid H.264 proxy resolutions.

Note the following limitation:

• Partial delivery and partial restore are not supported for H.264 proxy resolutions.

The following table lists the supported H.264 800 Kbps resolutions.

Editor Project Type	Edit Rate (frames/sec)	Resolution Name in Interplay Access and Interplay Transcode	KBit/Sec	Aspect Ratio	Proxy Raster Size
30i NTSC	29.97	H.264 800Kbps Proxy 525	800 Kbps	4:3	352x240
25i PAL	25	H.264 800Kbps Proxy 625	800 Kbps	4:3	352x288
720p 59.94	59.94	H.264 800Kbps Proxy 720p 59.94	800 Kbps	16:9	320x180
720p 50	50	H.264 800Kbps Proxy 720p 50	800 Kbps	16:9	320x180
720p 23.976	23.976	H.264 800Kbps Proxy 720p 23.976	800 Kbps	16:9	320x180
1080i 59.94	29.97	H.264 800Kbps Proxy 1080i 29.97	800 Kbps	16:9	480x270
1080i 50	25	H.264 800Kbps Proxy 1080i 25	800 Kbps	16:9	480x270
1080p 23.976	23.976	H.264 800 Kbps Proxy 1080p 23.976	800 Kbps	16:9	480x270
1080p 24	24	H.264 800Kbps Proxy 1080p 24	800 Kbps	16:9	480x270

Support includes eight channels of compressed MPEG1 Layer 2 audio media (96k per channel).

See the Interplay ReadMe for limitations on 24p proxy resolutions.

If you perform a partial restore operation on a sequence that includes H.264 media, H.264 media is fully restored. Other resolutions are partially restored.

H.264 2.0 Mbps Proxy Resolutions

Interplay version 2.7 and later supports workflows for H.264 2.0 Mbps (HD) and 1500 Kbps (SD) proxy resolutions. These resolutions are created by an Interplay Sphere editing system or by an Interplay Transcode provider. You can work with H.264 2.0 Mbps material in an Avid editing application, check it in and out of the Interplay database, and process it through Interplay Media Services and Interplay Transfer.

Note the following limitations:

• Partial archive and partial restore are not supported for H.264 proxy resolutions.

The following table lists the supported H.264 2.0 Mbps resolutions.

Editor Project Type	Edit Rate (frames/sec)	Resolution Name in Interplay Access and Interplay Transcode	Bit/Sec	Aspect Ratio	Proxy Raster Size
30i NTSC	29.97	H.264 1500Kbps Proxy 525	1500 Kbps	4:3	352x240
25i PAL	25	H.264 1500Kbps Proxy 625	1500 Kbps	4:3	352x288
720p 59.94	59.94	H.264 2.0Mbps Proxy 720p 59.94	2.0 Mbps	16:9	320x180
720p 50	50	H.264 2.0Mbps Proxy 720p 50	2.0 Mbps	16:9	320x180
1080i 59.94	29.97	H.264 2.0Mbps Proxy 1080i 29.97	2.0 Mbps	16:9	480x270
1080i 50	25	H.264 2.0Mbps Proxy 1080i 25	2.0 Mbps	16:9	480x270

Support includes eight channels of compressed MPEG1 Layer 2 audio media (96k per channel).

📄 *If a clip has both 800 Kbps and 2Mbps proxies, Access plays the 800 Kbps version.*

Installation and Configuration for an H.264 Workflow

The following topics describe installation and configuration that is specific to an H.264 workflow:

- H.264 Workflow Overview
- H.264 Card for AirSpeed Multi Stream
- Folders and Shared-Storage Workspaces for an H.264 Workflow
- Media Services Profiles for an H.264 Workflow
- Configuring Interplay Clients for an H.264 MultiRez Workflow

H.264 Workflow Overview

Interplay version 2.3 and later supports an end-to-end workflow that includes H.264 resolutions. This topic describes two workflows:

- AirSpeed MultiStream server to ingest both high-res and H.264 proxy media (H.264 800 Kbps only)
- Interplay Transcode to create H.264 media (either H.264 800 Kbps or H.264 2.0 Mbps)

📄 *This topic describes two possible workflows. For help in defining a workflow for your facility, consult an Avid workflow specialist.*

Dual-Ingest Using AirSpeed MultiStream

The following illustration shows the main stages of a workflow that uses an AirSpeed Multi Stream system for ingest of both high-res media and H.264 800 Kbps proxy media.
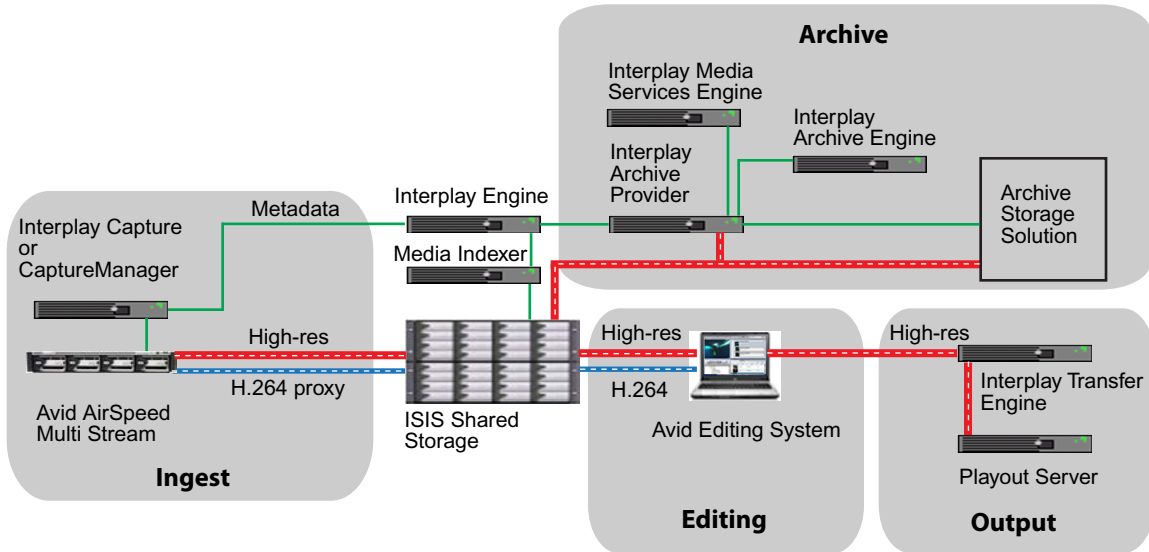
1. **Ingest:** Interplay Capture or CaptureManager manages dual ingest from the AirSpeed Multi Stream (high-res media and H.264 proxy media) and checks the metadata into the Interplay database on the Interplay Engine.

2. **Editing:** A user on an Avid editing system edits with H.264 proxy media (working resolution).

3. **Output:** When the sequence is complete, the user dynamically relinks to the high-res media (target resolution) and sends the sequence to playback.

   For information about input and output workflows for XDCAM HD media, see "Sony XDCAM HD and XDCAM EX End-to-End Workflow" on page 134.

4. **Archive:** From an Avid editing system, a user consolidates the sequence and uses the Interplay Archive Provider to send metadata to the Interplay Archive Engine and send media to a third-party storage solution. A user can also use the Interplay Transcode provider (from an Avid editing system or from Interplay Access) to create a mixdown and then archive the metadata and media.

📄 *You can stream H.264 media over a wide area network from the Interplay Streaming Server and play the media in Interplay Access.*

Transcoding Through Interplay Transcode

You can also use the Interplay Transcode service to create H.264 proxy media. The following illustration shows the main stages of a multi-resolution workflow that uses Interplay Transcode to create H.264 proxy media from high-res media ingested through an AirSpeed server.
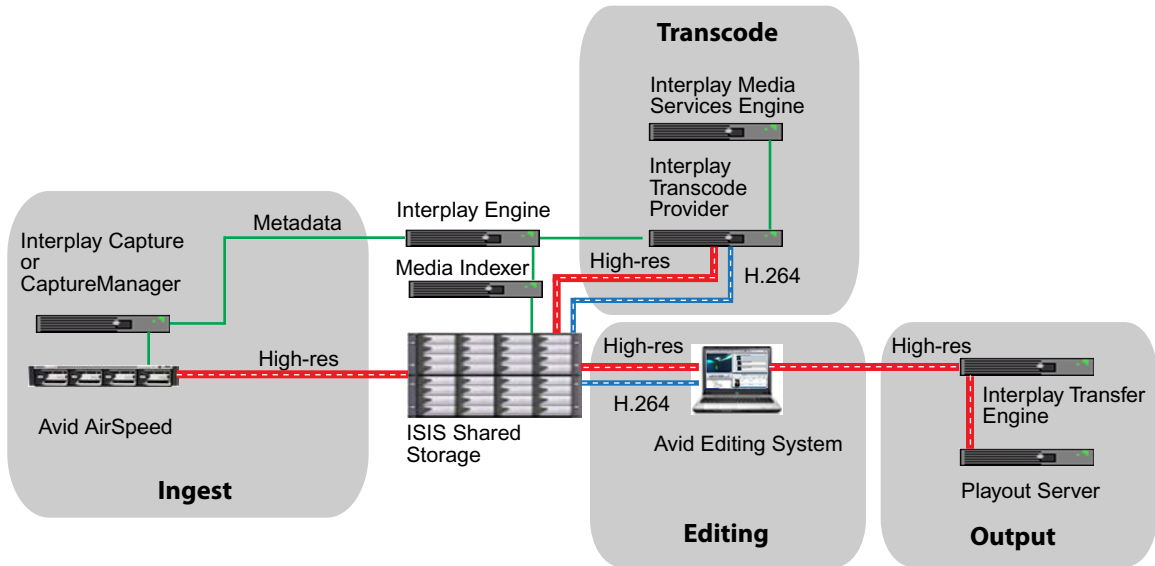
1. **Ingest:** Interplay Capture or Interplay CaptureManager manages ingest of high-res media from the AirSpeed server and checks the metadata into the Interplay database on the Interplay Engine. (You can also transcode media captured through an Avid editing system.)

2. **Transcode:** From Interplay Access or an Avid editing system, a user uses Interplay Transcode to create H.264 proxy media. Interplay Transcode stores media on the Avid shared-storage system and associate the high-res clips with the H.264 proxy media in the Interplay database.

3. **Editing:** A user on an Avid editing system edits with H.264 proxy media (working resolution).

4. **Output:** When the sequence is complete, the user dynamically relinks to the high-res media (target resolution) and sends the sequence to playback.

   For information about input and output workflows for XDCAM HD media, see "Sony XDCAM HD and XDCAM EX End-to-End Workflow" on page 134.

5. **Archive:** From an Avid editing system, a user consolidates the sequence and uses the Interplay Archive Provider to send metadata to the Interplay Archive Engine and send media to a third-party storage solution. (See "Dual-Ingest Using AirSpeed MultiStream" on

for an illustration.) A user can also use the Interplay Transcode provider (from an Avid editing system or from Interplay Access) to create a mixdown and then archive the metadata and media.

📄 *You can stream H.264 media over a wide area network from the Interplay Streaming Server and play the media in Interplay Access.*

Dynamic Relink and MPEG1 Layer 2 Audio

MPEG1 Layer 2 audio is a compressed audio format that is used as proxy media in a multi-resolution environment. MPEG1 Layer 2 uses a sample rate of 48 kHz with 16-bit depth. Interplay supports eight channels of MPEG1 Layer 2 audio at 96k per channel.

To explicitly link to proxy audio, select "Compressed" as the audio relink method in the Dynamic Relink settings. If you select "Compressed," the sample rate and bit depth are inactive. This setting is valid only for Working settings. Compressed audio is not supported in Target settings, to avoid sending compressed audio to a playback device.

H.264 Card for AirSpeed Multi Stream

An AirSpeed Multi Stream system uses an encoder card to ingest H.264 800 Kbps media. This card is shipped with new systems or can be installed in the field. For information about how to install the H.264 card, see the *Avid AirSpeed Multi Stream H.264 Option Kit Installation Guide*.

Folders and Shared-Storage Workspaces for an H.264 Workflow

As part of the configuration for acquiring media through Air Speed Multi Stream and an ingest automation server (Interplay Capture or CaptureManager), you need to specify the folders in which you want to store the clip metadata, the shared-storage workspace in which you want to store the media, and other information. The following topics describe the necessary settings:

- Configuring AirSpeed Multi Stream for an H.264 800Kbps Workflow
- Specifying the Folder Location in Interplay Capture or CaptureManager for H.264 Multi-Res Clips

Configuring AirSpeed Multi Stream for an H.264 800Kbps Workflow

To configure AirSpeed Multi Stream to ingest H.264 800 Kbps clips and media, you need to specify settings on four tabs in the Avid Service Configuration application:

- Record Templates
- Destination Templates
- Default Templates
- Inventory

You can open the Avid Service Configuration on any workstation in the workgroup that includes your AirSpeed Multi Stream server, if the Avid Service Framework is installed on the workstation.

To open the Avid Service Configuration dialog box:

1. Select Start > Programs > Avid > Avid Framework > Avid Service Configuration.

2. Click your AirSpeed Multi Stream server name and select AirSpeed Multi Stream Integration Service.

   The Avid Service Configuration dialog box opens.
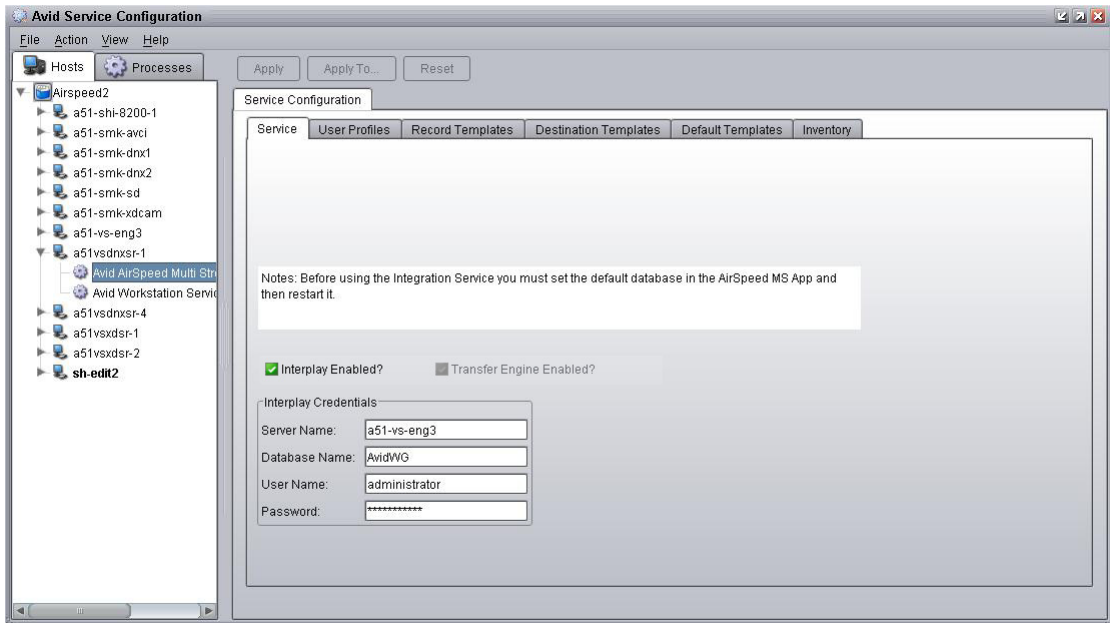
📖 *For complete information on configuring AirSpeed Multi Stream in a workgroup environment, see the* Avid AirSpeed Multi Stream Installation and User's Guide.

For an H.264 workflow, use the settings described in the following sections.

Record Templates Tab
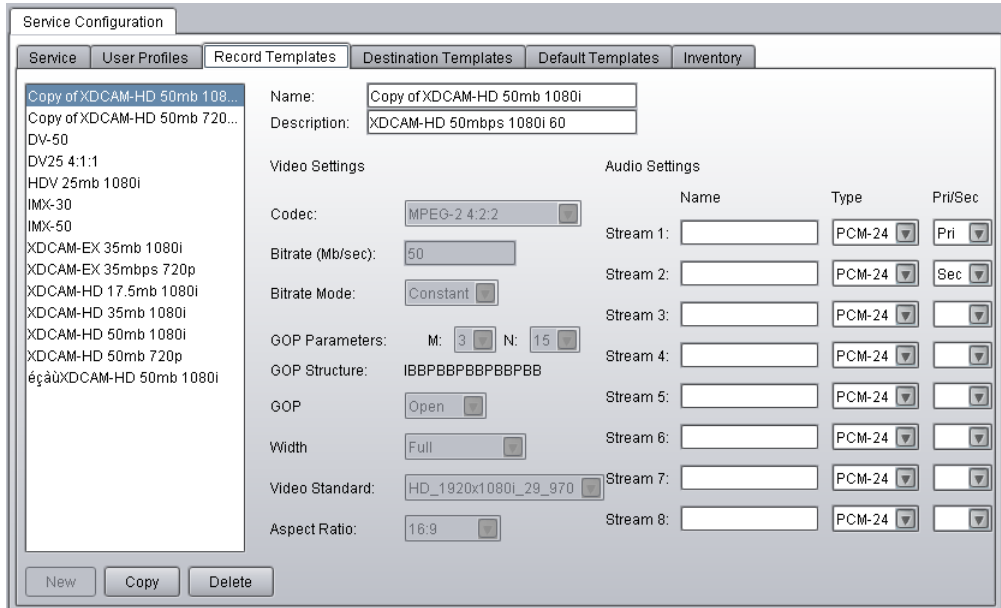
Use the Record Templates tab to specify the audio settings for each template that you use to record a high-res resolution and H.264 proxy resolution. In the Type column, select an audio format for each high-resolution stream you are recording. In the Pri/Sec (Primary/Secondary) column, select one stream as Pri to record H.264 proxy audio. You must have at least one stream selected as Pri. You can select a second stream as Sec (secondary).

Destination Templates Tab

Use the Destination Templates tab to specify the folder in which AirSpeed Multi Stream should store ingested clips and the workspace in which it should store the ingested media.

• **Interplay Folder Path**: Type the name of a subfolder in the Interplay database Projects folder in which to store the ingested clips. This is optional and is not necessary if you manage ingest through Interplay Capture or CaptureManager (Interplay Capture or CaptureManager overwrites this setting).

   If you specify a folder in the Interplay Folder Path field, the clip that is created in that folder is associated with both the low-res and high-res media and can be used for dynamic relink. In most cases, do not specify a folder in the Proxy Interplay Folder Path field.

• **Workspace:** Specify the workspace or workspaces in which AirSpeed Multi Stream should store the ingested media. You must specify a workspace in the Workspace field. You have the option of specifying a Proxy Workspace if you want to store the high-res media and the H.264 proxy media in different Avid ISIS workspaces.

Default Templates Tab

Use the Default Templates tab to select the Record template, proxy resolution, and Destination template for each channel you are going to record. In the Record column, select the Record template for the high-res resolution. In the Proxy column, select an H.264 proxy resolution. (The correct corresponding proxy is displayed in the list automatically.) In the Destination column, select the Destination template for the clips and media.

Inventory Tab

Use the Inventory tab to specify if you want to capture the audio for the H.264 proxy video. Select the option "Transfer Compressed Audio Streams to Interplay?"

The setting "Generate local MPEG-1 proxy after playback transfer completes?" applies only to local playback on the AirSpeed Multi Stream. It is not related to H.264 proxy media.

Specifying the Folder Location in Interplay Capture or CaptureManager for H.264 Multi-Res Clips

The following sections describe how to set a folder location in Interplay Capture and in Avid CaptureManager to hold multi-res clips.

Configuring Interplay Capture

If you are using Interplay Capture, you set the folder for storing ingested clips in the General tab of the Schedule Item Detail panel. Select a folder location from the Interplay directory tree. You can access a list of recently used folders by clicking the down-arrow icon next to the Folder field.

For complete information on configuring Interplay Capture, see the Avid Interplay Capture *User's Guide.*

The following figure shows Interplay Capture set to store clips in the Interplay folder /Projects/Workflows/1080iXDCAM50.
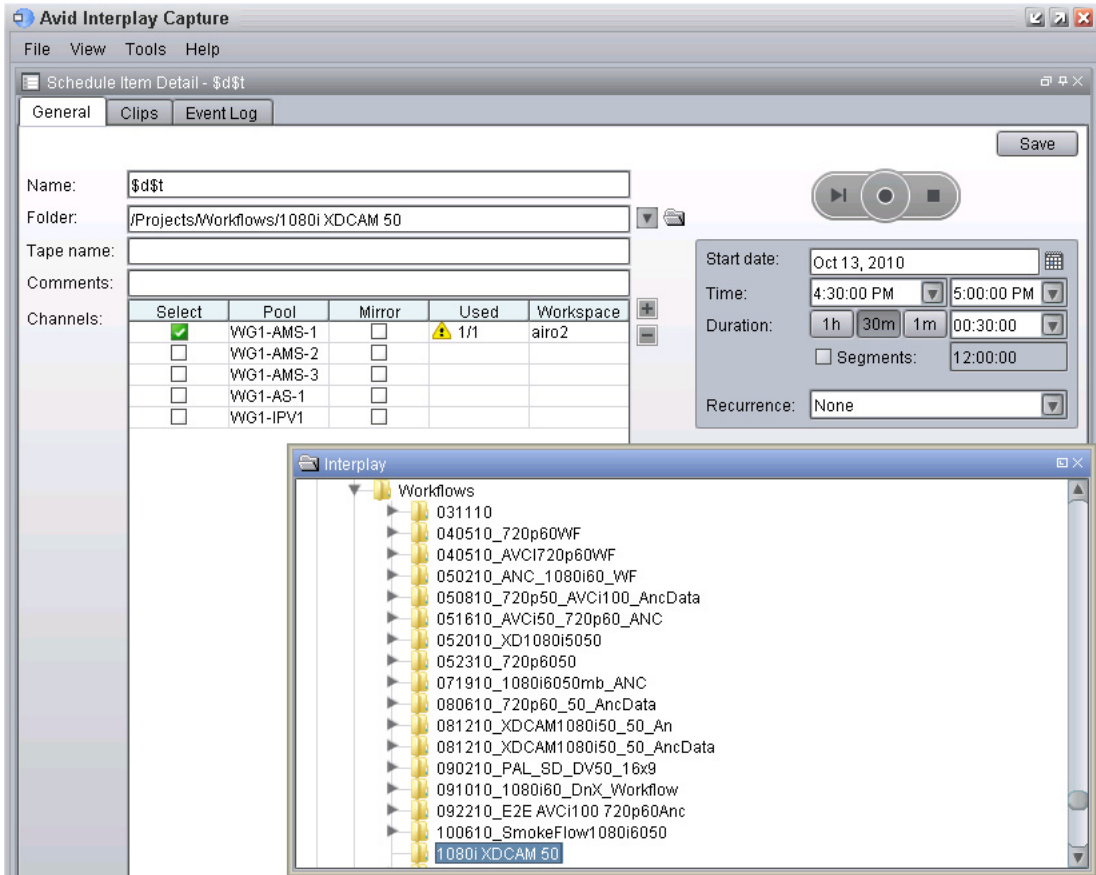
After a capture is completed, the editor should work with the clip that is stored in the Projects folder. See "Acquiring Media for an H.264 Workflow" on page 188.

Configuring CaptureManager

If you are using CaptureManager, you set the folder for storing ingested clips in the Folder field of the Channel Information window. Type the folder name or click the Browse button.

In the following illustration, ingested clips will be stored in the Interplay folder /Projects/Workflows/1080iXDCAM50.
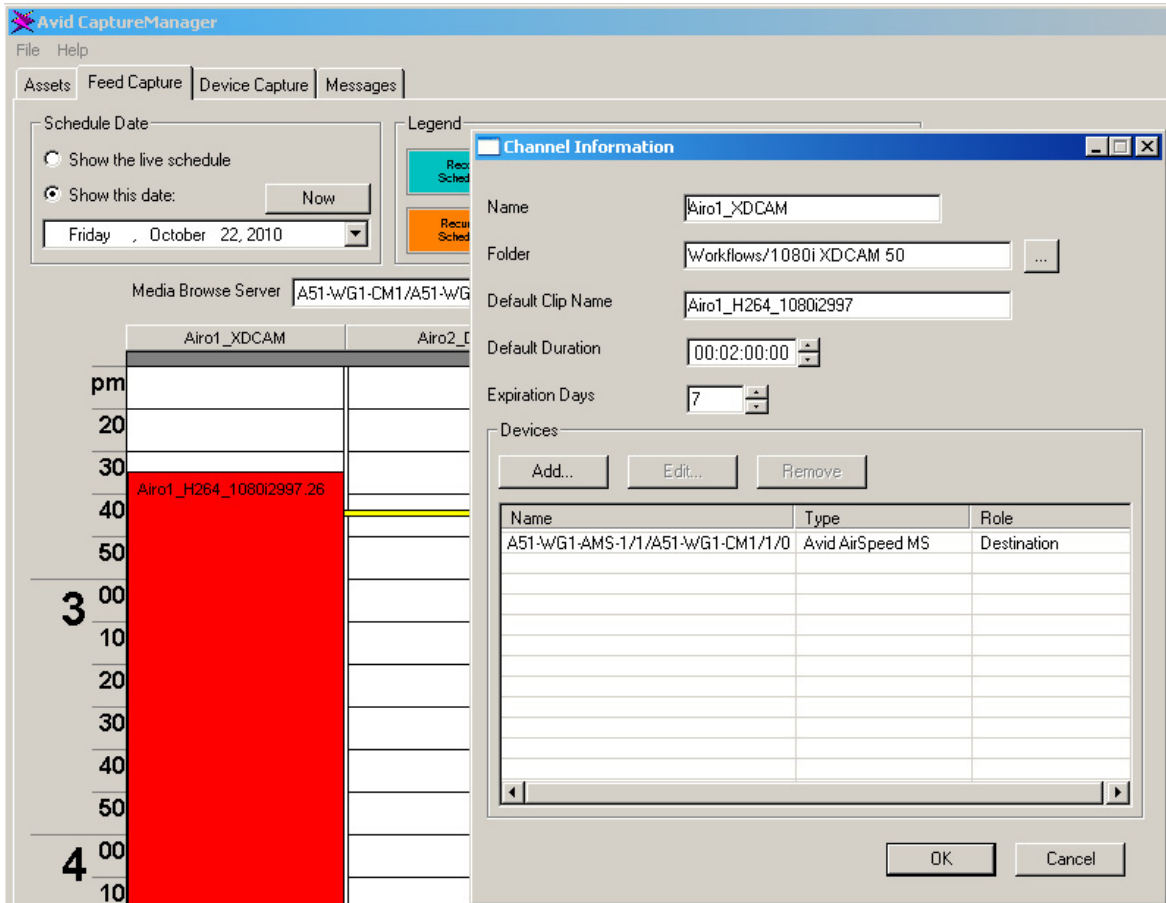
The Browse button on the CaptureManager Channel Information dialog box displays the folder structure of the CaptureManager SQL database. This database is not connected to Interplay but identical folders are created in the database. If you navigate to one of the SQL database folders, CaptureManager will use that path name to create an Interplay database folder, if the folder does not already exist.

After a capture is completed, the editor should work with the clip that is stored in the Projects folder. See "Acquiring Media for an H.264 Workflow" on page 188.
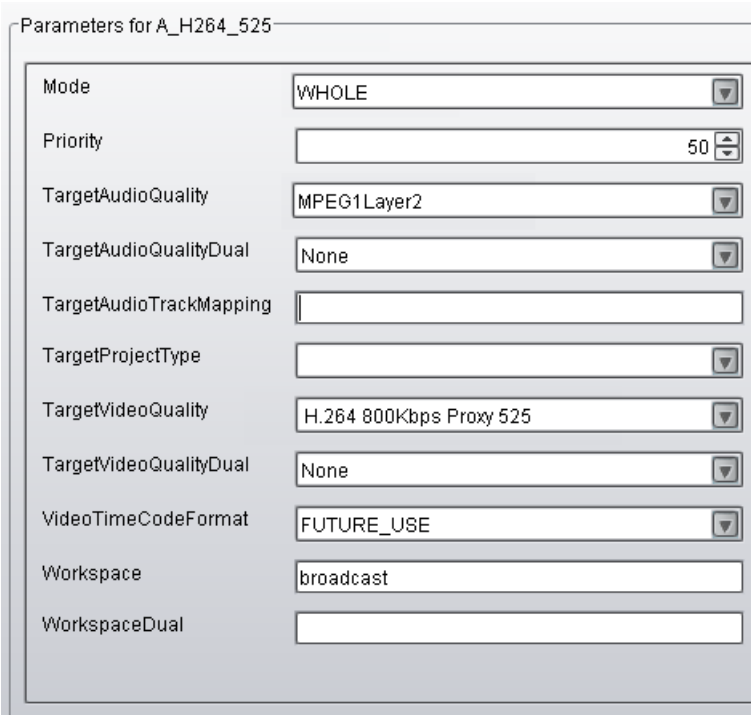
For complete information on configuring CaptureManager, see the Avid CaptureManager Installation and Configuration Guide *and the* Avid CaptureManager User's Guide.

Media Services Profiles for an H.264 Workflow

Depending on your workflow, you may need to create profiles for the following Media Services. You set these profiles in the Profiles tab of the Media Services and Transfer Status tool. For information about supported H.264 resolutions, see "H.264 Resolutions Supported by Interplay" on page 171. For more information about creating profiles, see the *Avid Media Services Setup and User's Guide*.

• Avid Interplay Transcode Service: If you are transcoding high-res media to H.264 media, select your desired H.264 resolution from the TargetVideoQuality list. You can select any mode (WHOLE, CONSOLIDATE, MIXDOWN, DUALMIXDOWN, CROSSRATE).

• Avid Interplay Archive Service: If you plan to archive H.264 media, select your desired resolution from the TargetVideoQuality list. For H.264 media, you can select All, Lowest, or a specific resolution.

- Avid Interplay Restore Service. If you plan to restore H.264 media from archive, select your desired resolution from the TargetVideoQuality list. For H.264 media, you can select All, Lowest, or a specific resolution.

If you use a profile in which Partial is selected, H.264 media is fully restored.

Configuring Interplay Clients for an H.264 MultiRez Workflow

To prepare for editing with H.264 proxy media, specify your desired working and target settings in the Dynamic Relink Settings dialog box in your Avid editing application. The following are typical settings for a multirez workflow with H.264 proxy media:

- Working Settings: Relink to the specific resolution H.264 800Kbps
- Target Settings: Relink to the specific resolution XDCAM HD 50 Mbit

Other settings are possible, depending on your specific workflow.

The following illustration shows the Working Settings tab for relinking to an H.264 resolution.

Working Settings: H.264
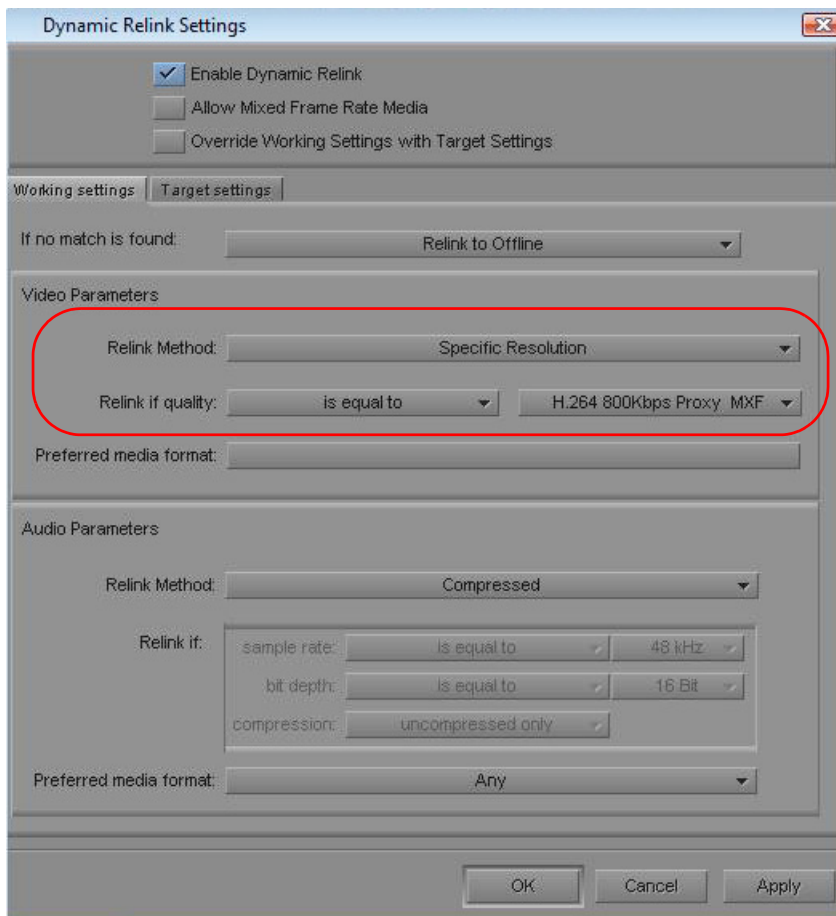
The following illustration shows the Target Settings tab for relinking to an XDCAM HD resolution.

Target Settings: 1080i/59.94 XDCAM HD 50
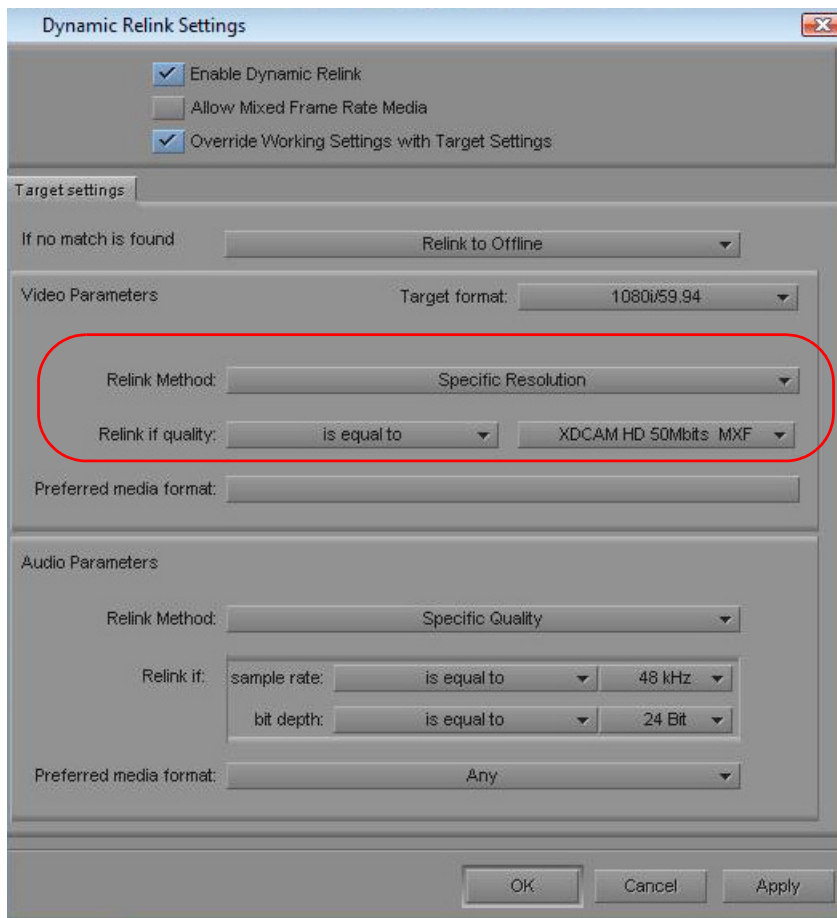
For more information on MultiRez, see "Using MultiRez and Dynamic Relink" in the Interplay Help or the Help for your Avid editing application.

Acquiring Media for an H.264 Workflow

The following topics describe two methods for acquiring H.264 media:

- Dual-Ingest for High-Res Media and H.264 Proxy Media
- Transcoding to Create H.264 Media

📖 *You can stream H.264 media over a wide area network from the Interplay Streaming Server and play the media in Interplay Access.*

Dual-Ingest for High-Res Media and H.264 Proxy Media

An AirSpeed Multi Stream server with an H.264 encoder card can simultaneously ingest both high-res media and low-res H.264 800 Kbps media. You can use Interplay Capture or CaptureManager to manage the ingesting process. For specific H.264 settings, see "Folders and Shared-Storage Workspaces for an H.264 Workflow" on page 176.

Both CaptureManager and Capture work with AirSpeed MultiStream to create a clip in a Projects folder that you specify. This clip is associated with both the high-res media and the low-res media, and you should use this clip for editing and streaming.

However, CaptureManager creates additional links, and Interplay Capture creates additional clips and links, as described in the following sections.

CaptureManager and AirSpeed MultiStream

CaptureManager and AirSpeed MultiStream create one clip that is associated with both high-res and low-res media. In the Interplay database, there are three links to this clip:

- Projects*folder_name*, where *folder_name* refers to the path you set in the CaptureManager Channel Information dialog box.
- Incoming Media*workspace_name*, where *workspace_name* refers to the shared-storage workspace you set in the AirSpeed Multi Stream Destination template. You must specify a workspace in this template to perform an ingest operation.
- Catalogs*server_name*, where *server_name* is the network name of the AirSpeed Multi Stream server. No setting is required.

These are all links to the same database clip and share the same name.

The following illustration shows the high-res media and the low-res media associated with the clip, as displayed in Interplay Access.
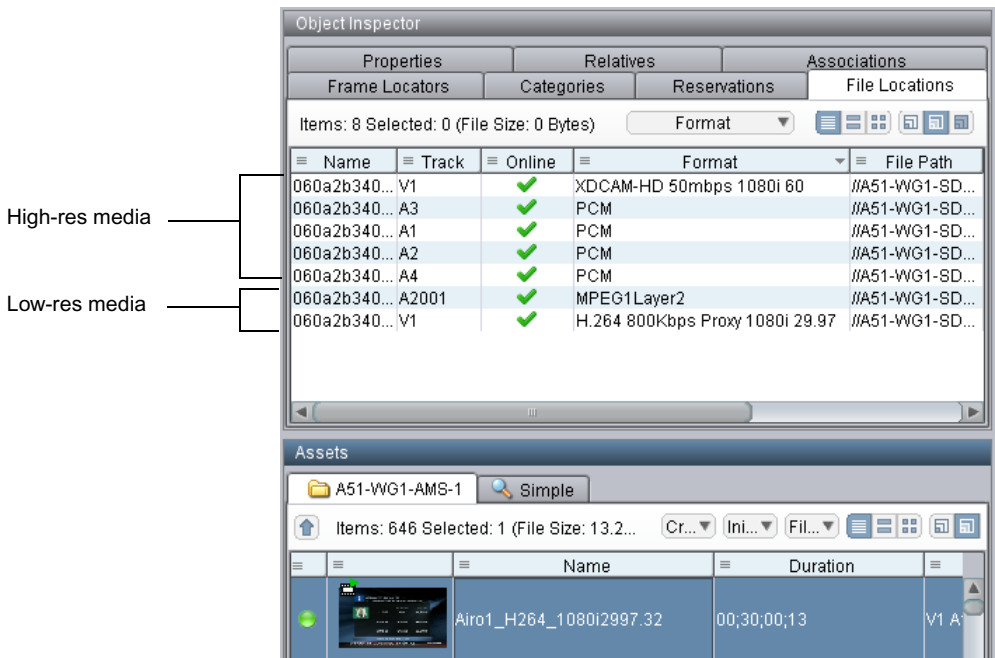
The following illustration shows links to the multires clip stored in three folders.
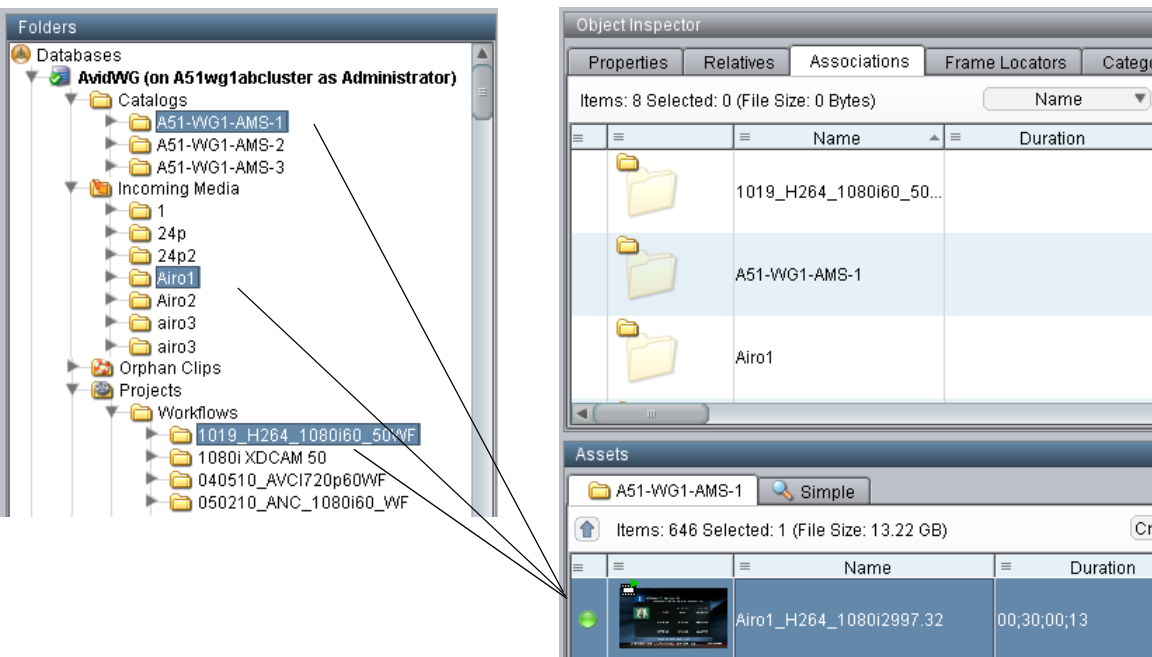
Typically, you use the link in the Projects folder (the folder that you set in CaptureManager) for editing and streaming.

Interplay Capture and AirSpeed MultiStream

Interplay Capture and AirSpeed MultiStream create three different but related clips in the following locations:

- Capture master clip: This clip is checked into the folder Projects*folder_name*, where *folder_name* refers to the path you set in Interplay Capture (in the General tab of the Schedule Item Detail panel). This folder contains a clip that is associated with both high-res and low-res media. You should use this clip for editing and streaming.

- Device clips: When working with an AirSpeed Multistream server, Capture creates two additional clips: one associated with high-res media and one associated with low-res media. These clips are checked into the following folders:

  - Incoming Media*workspace_name*, where workspace_name refers to the shared-storage workspace you set in the AirSpeed Multi Stream Destination template. You must specify a workspace in this template to perform an ingest operation, and this workspace name is used to create this folder.

  - Catalogs*server_name*, where server_name is the network name of the AirSpeed Multi Stream server. No setting is required.

  - Projects*name,* where *name* is the folder name you set in the General tab of the Capture Settings plugin in the Interplay Administrator. Make sure to distinguish this folder from the folder you set for the Capture master clip.

  Avid recommends that these three folders be hidden from all users except administrators, because the multi-res associations are managed only on the Capture master clip. For more information, see *Avid Interplay Capture Best Practices*.

The following illustration shows the high-res media and the low-res media associated with the Capture master clip, as displayed in Interplay Access.
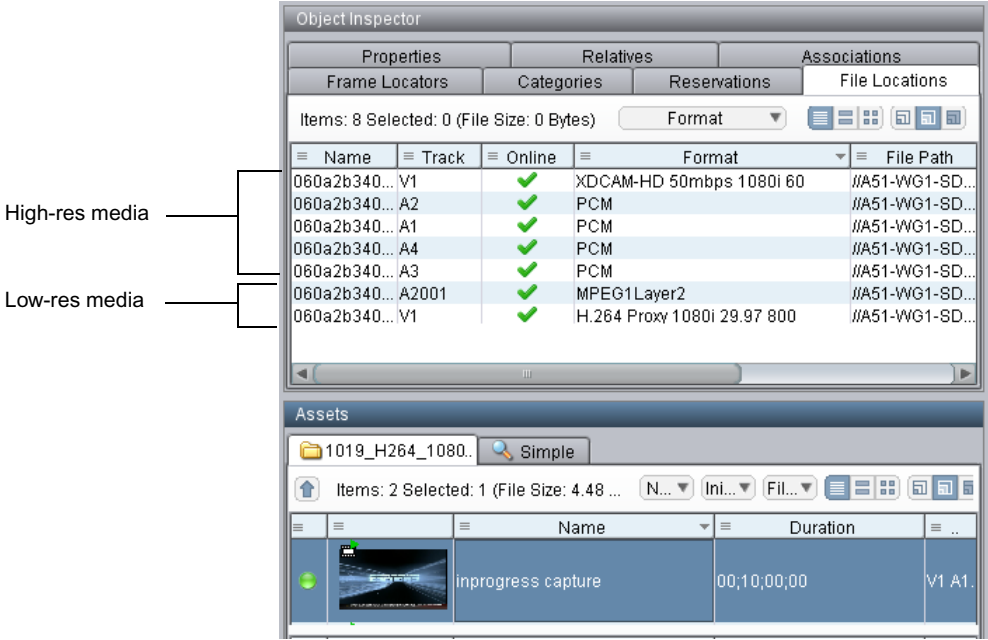
The following illustration shows the associations for the Capture master clip. Because it is a multi-res clip, it is associated with both the low-res and the high-res device clips. Capture appends a .1 to the low-res and the high-res device clips.

Projects folder that holds the Capture master clip

High-res device clip
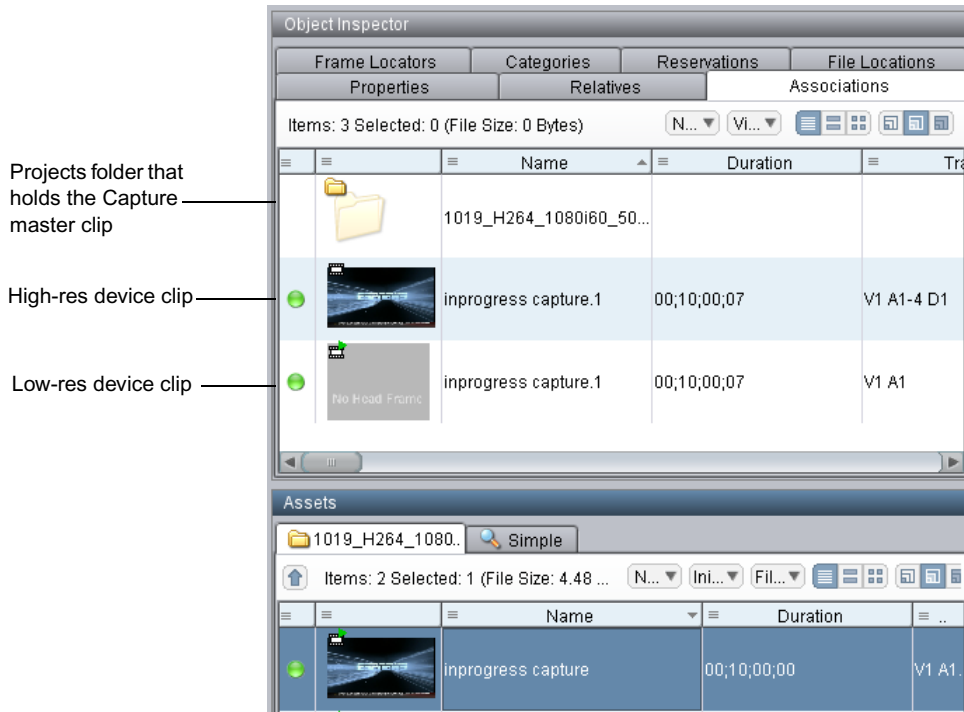
Low-res device clip

The following illustration shows the associations for the high-res device clip: three folders and the Capture master clip. Both high-res and low-res device clips are located in these three folders.
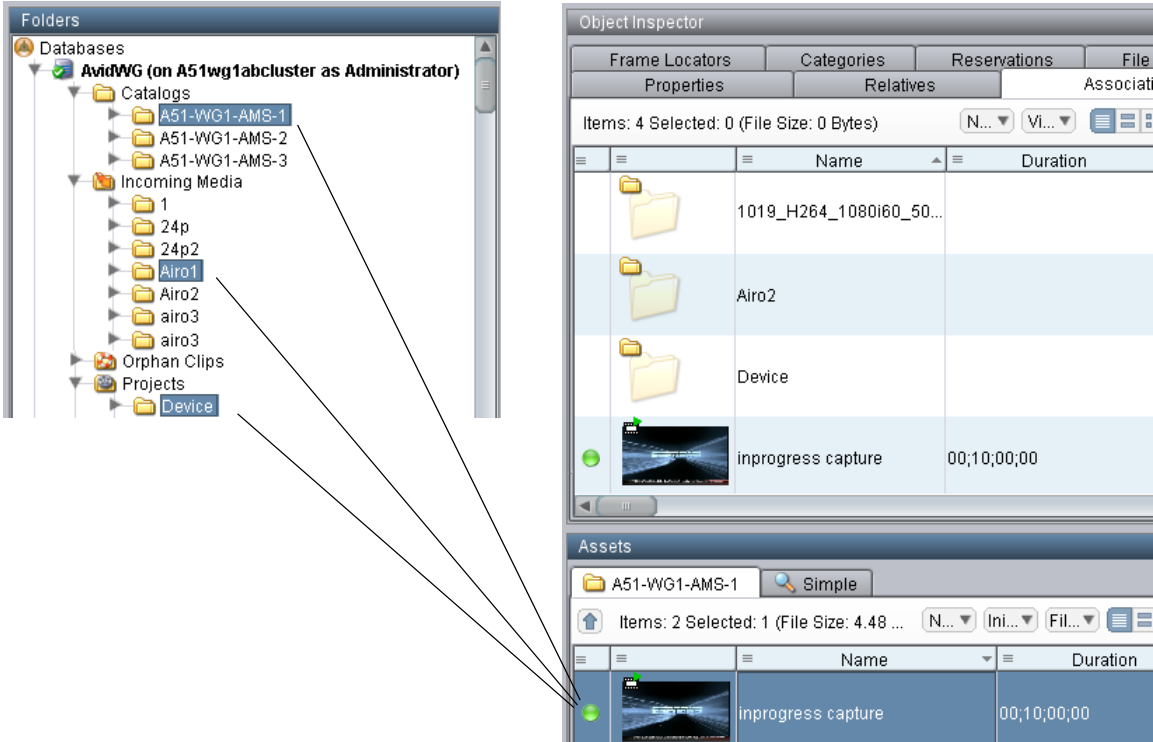
Transcoding to Create H.264 Media

If you do not use a dual-ingest configuration, you can use the Interplay Transcode service to create H.264 media for proxy editing or streaming over the web. Transcoding to create H.264 media requires a Transcode profile (see "Media Services Profiles for an H.264 Workflow" on page 184 and "H.264 Resolutions Supported by Interplay" on page 171). You can use the Auto-Transcode service to set up folders for automatic transcoding to H.264.

For information about using the Interplay Transcode and the Interplay Auto-Transcode services, see the *Avid Interplay Media Services Setup and User's Guide* or the Interplay Help.

Editing with H.264 and High-Res

After the H.264 media is acquired, you can use the MultiRez and Dynamic Relink features to edit with H.264 low-res proxy media and output high-res media.

When editing with H.264 media in an Avid editing system, for the best performance during playback, right-click the Video Quality menu button below the Timeline and select Best Performance (yellow/yellow).

Video Quality Menu Button

For more information, see the documentation for your Avid editing system.

Archiving, Restoring, and Deleting H.264 and High-Res Media

Procedures for archiving, restoring, and deleting H.264 and high-res media are similar to procedures you use for other multirez workflows. However, If you perform a partial restore operation on a sequence that includes H.264 media, H.264 media is fully restored. Other resolutions are partially restored.

Two possible workflows are:

- Archiving high-res media after it is ingested:
    - Use the Interplay Archive service to archive the high-res media to archive storage, while keeping the low-res media online on shared storage. Alternatively, you can archive the low-res media also.
    - Delete the high-res online media.
    - Create a sequence using low-res H.264 media.
    - Use the Interplay Restore service to perform a partial restore to bring the necessary portions of the high-res media online.
    - Use Dynamic Relink to create the final output.
- Archiving the final sequence and its media.
    - Create a sequence using H.264 media.
    - Use Dynamic Relink to create the final output.
    - Consolidate the sequence to create only the media used in the sequence.

- Use Interplay Archive to archive the sequence and the consolidated media.

For information about delete workflows, see "Developing an Interplay Delete Strategy" on page 47.

10　HD 23.976p and HD 24p Support

The following topics describe Interplay support for HD 23.976p and HD 24p formats and their associated proxy resolutions:

- Interplay Support for Native HD 23.976p and HD 24p Formats
- Interplay Support for HD 23.976p and HD 24p Proxy Resolutions

Interplay Support for Native HD 23.976p and HD 24p Formats

Interplay version 2.3 and later supports management of assets acquired in the native frame rate for the following HD formats:

Format	Type of Acquisition (in Avid editing systems)
1080p/23.976	Camera, deck, file-based clips through AMA, import
1080p/24	Camera, deck, file-based clips through AMA, import
720p/23.976	File-based clips through AMA, import

In an Avid editing project, Interplay support requires the following:

- The media must be acquired directly in one of the supported formats, such as through a camera that is recording HD 1080p/23.976 without pulldown. In this case, HD 1080p/23.976 is referred to as the "native frame rate."
- The native frame rate of the media must match the project frame rate.

This is especially important for dynamic relink. For example, if you are working in a 1080p/23.976 project, your media must be captured directly as 1080p/23.976. You can then use dynamic relink between DNxHD 1080 36 and 1:1 MXF or with any other resolutions that are supported for the 1080p/23.976 format. See the table below for the supported resolutions for each project type.

📝 *Interplay does not support dynamic relink between sources that use different edit rates. For example, you cannot dynamically relink a 1080p/23.976 master clip to 720p/23.976 media. Interplay also does not support dynamic relink between NTSC sources from which pulldown has been removed (23.976p or 24p projects) and their HD 23.976p and 24p equivalents.*

📝 *You cannot use Dynamic Relink with clips that are captured in a 720p 23.976 project from a deck set to 720p 59.94 or 720p 60. This configuration creates media from which pulldown has been removed, which is not supported for Dynamic Relink in Interplay.*

Interplay support for native HD 23.976p and 24p formats includes the following:

- Checkin to and checkout from the Interplay database

- Dynamic relink (only as described above)

- Logging clips in Interplay Assist

- Archive and restore through Media Services

- Transcode through Media Services (with the exceptions noted in the table below)

- Transfer to another workgroup (Send to Workgroup)

- Output directly to a 24p or 23.976p device (camera or file-based media player). Other file-based output, such as Send to Playback, requires modifying the sequence in the Avid editing application to the desired format. For example, in a 1080p/23.976p project, modify a 1080p/23.976p sequence to 1080i/59.94, then open it in a 1080i/59.94 project.

- Output to tape can be supported through Avid hardware, through the tape device, or by transcoding the sequence in the Avid editing application.

The following table lists supported resolutions:

Project Type and Raster Size	Resolution	Notes
1080p/23.976 1920x1080	1:1 MXF	Not a supported target for Interplay Transcode
	1:1p 10b MXF	Not a supported target for Interplay Transcode
	AVC-Intra 50 1080p 23.976	
	AVC-Intra 100 1080p 23.976	
	DNxHD 1080 36	
	DNxHD 1080 115-120-145	
	DNxHD 1080 175-185-220	

Project Type and Raster Size	Resolution	Notes
	DNxHD 1080 175X-185X-220X	
	DNxHD 444 1080 350X-365X-440X	RGB color space
	DNxHD 1080p 100	
	XDCAM-EX 35mbps 1080p 23.976	
	XDCAM-HD 50mbps 1080p 23.976	
	Apple ProRes Proxy 1080p 23.976	
	Apple ProRes LT 1080p 23.976	
	Apple ProRes 1080p 23.976	
	Apple ProRes HQ 1080p 23.976	
	Apple ProRes 4444 1080p 23.976	
	JPEG 2000 1080p 23.976	
1080p/24 1920x1080	1:1 MXF	Not a supported target for Interplay Transcode
	1:1p 10b MXF	Not a supported target for Interplay Transcode
	DNxHD 1080 36	
	DNxHD 1080 115-120-145	
	DNxHD 1080 175-185-220	
	DNxHD 1080 175X-185X-220X	
	DNxHD 444 1080 350X-365X-440X	RGB color space
	DNxHD 1080p 100	
	Apple ProRes Proxy 1080p 24	
	Apple ProRes LT 1080p 24	
	Apple ProRes 1080p 24	
	Apple ProRes HQ 1080p 24	
	Apple ProRes 4444 1080p 24	
	JPEG 2000 1080p 24	

Project Type and Raster Size	Resolution	Notes
720p/23.976 1280x720	1:1 MXF	Not a supported target for Interplay Transcode
	1:1p 10b MXF	Not a supported target for Interplay Transcode
	AVC-Intra 50 720p 23.976	
	AVC-Intra 100 720p 29.97	
	DNxHD 720 60-75-145	
	DNxHD 720 90-110-220	
	DNxHD 720 90X-110X-220X	
	DNxHD 720p 100	
	XDCAM-EX 35mbps 720p 23.976	
	DVCPRO HD	
	Apple ProRes Proxy 720p 23.976	
	Apple ProRes LT 720p 23.976	
	Apple ProRes 720p 23.976	
	Apple ProRes HQ 720p 23.976	
	JPEG 2000 720p 23.976	

Support for HD RGB Media

Avid Interplay supports two HD RGB resolutions:

- 1:1 10-bit HD RGB. This resolution is supported for check in, check out, and deletion. It is not supported for Media Services operations.
- DNxHD 444 RGB. This resolution is supported for all Interplay operations.

Film Option When Creating a New Project

If you want to use Dynamic Relink in any of the following project types:

- 1080p 23.976
- 1080p 24
- 720p 23.976

do not select the Film option in the Create New Project dialog box. Selecting the Film option disables Dynamic Relink.

Interplay Support for HD 23.976p and HD 24p Proxy Resolutions

Interplay version 2.5 and later includes support for HD 23.976p and HD 24p low-res proxy media. You can work with this proxy media in an Avid editing application, check it in and out of the Interplay database, and process it through Interplay Media Services and Interplay Transfer.

This proxy media is supported only in workgroups that use Interplay Engine v2.5 or later.

The following table describes the HD formats supported by Interplay and the corresponding proxy formats, as they are labeled in the Media Services Profiles tab in the Avid Interplay Media Services and Transfer Status tool. Use the Profiles tab to create a Transcode profile that specifies the required proxy format.

HD Format	Type of Acquisition (in Avid editing systems)	Proxy Format
1080p/23.976	Camera, deck, file-based clips through AMA, import	H.264 800Kbps Proxy 1080p 23.976
1080p/24	Camera, deck, file-based clips through AMA, import	H.264 800Kbps Proxy 1080p 24
720p/23.976	File-based clips through AMA, import	H.264 800Kbps Proxy 720p 23.976

Avid editing applications cannot create HD 23.976p or HD 24p H.264 proxy media.This media can be created only by using the Interplay Media Services to transcode or mix down a clip or sequence to one of the Avid H.264 proxy resolutions.

Because these proxy resolutions use the H.264 format, you can play clips and sequences through Interplay Access over a WAN.

In an Avid editing system, you can use the low-res proxy media to edit a sequence, and then use dynamic relink to link to the high-res media for conforming and finishing.

For important limitations, see the latest version of the *Avid Interplay ReadMe*, available on the Customer Support Knowledge Base at www.avid.com/readme.

11 Apple ProRes Resolutions Supported in Interplay

Interplay v2.6 supports workflows for clips and sequences that use Apple ProRes resolutions, with some limitations. You can work with Apple ProRes clips in an Avid editing application, check them in and out of the Interplay database, process them through Interplay Media Services, and use Interplay Transfer for workgroup-to-workgroup transfers.

Note the following limitations:

- Apple ProRes 4444 is not supported for 720p projects.
- SD progressive resolutions are not supported in Interplay.
- Partial archive and partial restore are not supported for Apple ProRes resolutions.
- Sequences composed of Apple ProRes clips are not supported for Send to Playback.

The following table lists the supported resolutions. These resolutions are supported as sources and targets for Interplay Transcode.

Project	Edit Rate	Resolution Name in Interplay Access and Interplay Transcode	Mbit/sec	Raster Size
720p	23.976	Apple ProRes Proxy 720p	18	1280 x 720
		Apple ProRes LT 720p	41	1280 x 720
		Apple ProRes 720p	59	1280 x 720
		Apple ProRes HQ 720p	88	1280 x 720
720p	50	Apple ProRes Proxy 720p	38	1280 x 720
		Apple ProRes LT 720p	84	1280 x 720
		Apple ProRes 720p	122	1280 x 720
		Apple ProRes HQ 720p	184	1280 x 720

Project	Edit Rate	Resolution Name in Interplay Access and Interplay Transcode	Mbit/sec	Raster Size
720p	59.94	Apple ProRes Proxy 720p	45	1280 x 720
		Apple ProRes LT 720p	101	1280 x 720
		Apple ProRes 720p	147	1280 x 720
		Apple ProRes HQ 720p	220	1280 x 720
1080p	23.976	Apple ProRes Proxy 1080p	36	1920 x 1080
		Apple ProRes LT 1080p	82	1920 x 1080
		Apple ProRes 1080p	117	1920 x 1080
		Apple ProRes HQ 1080p	176	1920 x 1080
		Apple ProRes 4444 1080p	264	1920 x 1080
1080p	24	Apple ProRes Proxy 1080p	36	1920 x 1080
		Apple ProRes LT 1080p	82	1920 x 1080
		Apple ProRes 1080p	117	1920 x 1080
		Apple ProRes HQ 1080p	176	1920 x 1080
		Apple ProRes 4444 1080p	264	1920 x 1080
1080i	50	Apple ProRes Proxy 1080i	38	1920 x 1080
		Apple ProRes LT 1080i	85	1920 x 1080
		Apple ProRes 1080i	122	1920 x 1080
		Apple ProRes HQ 1080i	184	1920 x 1080
		Apple ProRes 4444 1080i	275	1920 x 1080

Project	Edit Rate	Resolution Name in Interplay Access and Interplay Transcode	Mbit/sec	Raster Size
1080i	59.94	Apple ProRes Proxy 1080i	45	1920 x 1080
		Apple ProRes LT 1080i	102	1920 x 1080
		Apple ProRes 1080i	147	1920 x 1080
		Apple ProRes HQ 1080i	220	1920 x 1080
		Apple ProRes 4444 1080i	330	1920 x 1080
25i PAL	25	Apple ProRes Proxy 25i	12	720 x 576
		Apple ProRes LT 25i	28	720 x 576
		Apple ProRes 25i	41	720 x 576
		Apple ProRes HQ 25i	61	720 x 576
		Apple ProRes 4444 25i	92	720 x 576
30i NTSC	29.97	Apple ProRes Proxy 30i	12	720 x 486
		Apple ProRes LT 30i	29	720 x 486
		Apple ProRes 30i	42	720 x 486
		Apple ProRes HQ 30i	63	720 x 486
		Apple ProRes 4444 30i	94?	720 x 486

12 JPEG 2000 Resolutions Supported in Interplay

Interplay v2.6 supports workflows for clips and sequences that use JPEG 2000 (J2K) resolutions, with some limitations. You can work with JPEG 2000 material in an Avid editing application, check it in and out of the Interplay database, and process it using Interplay Media Services and use Interplay Transfer for workgroup-to-workgroup transfers.

JPEG 2000 resolutions are supported in Media Composer v6.1 and later.

Note the following limitation:

•   Sequences composed of JPEG 2000 clips are not currently supported for Send to Playback.

The following table lists the supported resolutions. These resolutions are supported as sources and targets for Interplay Transcode.

Project	Edit Rate	Resolution Name in Interplay Access and Interplay Transcode	Average Video Bit Rate (Mbit/Sec)	Maximum Video Bit Rate (Mbit/Sec)	Raster Size
30i	29.97	J2K NTSCi	50 Mbit	120 Mbit	720x486
25i	25	J2K PALi	50 Mbit	120 Mbit	720x592
720p	23.976	J2K 720p	60 Mbit	150 Mbit	1280x720
	50	J2K 720p	125 Mbit	250 Mbit	1280x720
	59.94	J2K 720p	150 Mbit	250 Mbit	1280x720
1080i	50	J2K1080i	125 Mbit	250 Mbit	1920x1080
	59.94	J2K1080i	150 Mbit	250 Mbit	1920x1080
1080p	23.976	J2K1080p	120 Mbit	250 Mbit	1920x1080
	24	J2K1080p	120 Mbit	250 Mbit	1920x1080

13 Support for Stereoscopic 3D Workflows

The following topics describe support for stereoscopic 3D workflows in Interplay:

- Overview of Stereoscopic Support
- Stereoscopic Media and Stereoscopic Clips
- Stereoscopic 3D Support in Interplay Access
- Stereoscopic 3D Support in Interplay Transcode
- Stereoscopic 3D Support in the Interplay Window, Interplay Assist, and Avid Instinct
- Properties for Stereoscopic Clips

Overview of Stereoscopic Support

Interplay v2.6 supports workflows for clips and sequences that use stereoscopic 3D formats, with some limitations. Stereoscopic metadata is preserved when you check stereoscopic objects in and out of the Interplay database, process them through Interplay Media Services, and use Interplay Transfer for workgroup-to-workgroup transfers. Interplay Transcode supports transcoding of stereoscopic media from one format to another.

Note the following limitations:

- Stereoscopic clips are supported in Transcode WHOLE and CONSOLIDATE mode but are not supported in DUALMIXDOWN or CROSSRATE mode. MIXDOWN mode is supported with limitations. See "Stereoscopic 3D Support in Interplay Transcode" on page 210.
- Stereoscopic clips are not supported for streaming play in Interplay Access. You cannot transcode to H.263 or H.264 target resolutions.
- Sequences composed of stereoscopic clips are not supported for Send to Playback.
- Stereoscopic clips are not supported for partial delivery or partial restore.
- Stereoscopic clips created from a simultaneous left/right capture do not load in an editing system if dynamic relink is enabled. An error message is displayed. As a workaround, disable dynamic relink. Note: Clips created manually or from QuickTime movies load and play correctly.

The following project types and resolutions are supported:

- 1080p 23.976

  - DNxHD 36, 115, 175, 175x, 444

  - AVC-Intra 50 and 100

  - 8-bit HD Uncompressed (1:1 MXF in Avid editing systems)

- 1080i 60

  - DNxHD 145. 220, 220x

  - AVC-Intra 50 and 100

  - 8-bit HD Uncompressed (1:1 MXF in Avid editing systems)

- 1080i 50

  - DNxHD 120, 185, 185x

  - AVC-Intra 50 and 100

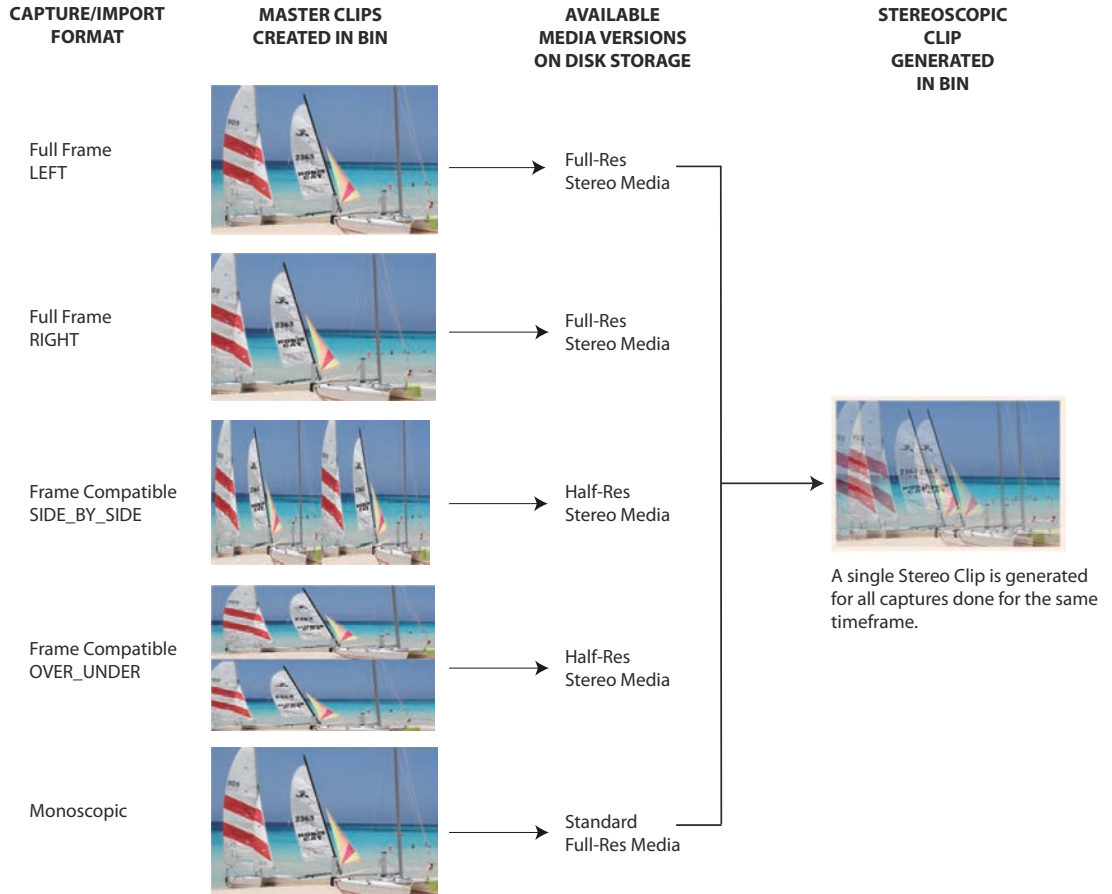 - 8-bit HD Uncompressed (1:1 MXF in Avid editing systems)

Stereoscopic Media and Stereoscopic Clips

Stereoscopic 3D editing requires two synchronized images, representing the left and right human eyes. When these left and right images are captured into an Avid editing application, they can be combined to produce a special type of clip called a *stereoscopic clip*, which allows you to more easily edit stereoscopic material.

In an Avid editing application, stereoscopic media can be edited in one of two formats: *full frame* or *frame compatible*.

- Full frame describes a format that represents each eye of the stereoscopic pair at full resolution. During the capture process, one master clip is created for the left eye and one master clip is created for the right eye. A stereoscopic clip is created to reference these master clips.

- Frame compatible describes a format where the images from both the eyes are squeezed into a single video image, either side by side or over/under. During the capture process, only one master clip is created. A stereoscopic clip is created to reference this master clip.

The following illustration shows the four different types of 3D master clips. It also shows how all 3D master clips and a monoscopic clip can be associated with the same stereoscopic clip.

| CAPTURE/IMPORT FORMAT | MASTER CLIPS CREATED IN BIN | AVAILABLE MEDIA VERSIONS ON DISK STORAGE | STEREOSCOPIC CLIP GENERATED IN BIN |

A single Stereo Clip is generated for all captures done for the same timeframe.

The following illustration shows a stereoscopic clip and two full-frame master clips in a Media Composer bin. The stereoscopic clip is represented by a unique icon. The illustration also shows some of the bin columns that are specifically used for stereoscopic objects.

		Name	S3D Contributors	S3D Leading Eye	S3D Channel	S3D Group Name	S3D Clip Name
		Full_2_1080i50avci50	Left, Right, Audio	Right		Full_2_1080i50avci50	
		Full_Right_2_1080i50avci50			Right Eye	Full_2_1080i50avci50	Full_2_1080i50avci50
		Full_Left_2_1080i50avci50			Left Eye	Full_2_1080i50avci50	Full_2_1080i50avci50

⊟ *For more information about working with stereoscopic clips on an Avid editing system, see the* Avid Stereoscopic 3D Editing Workflow Guide*, which is available on the Customer Support Knowledge Base.*

Stereoscopic 3D Support in Interplay Access

Interplay Access v2.6 and later includes the following features that support workflows for stereoscopic media and clips:
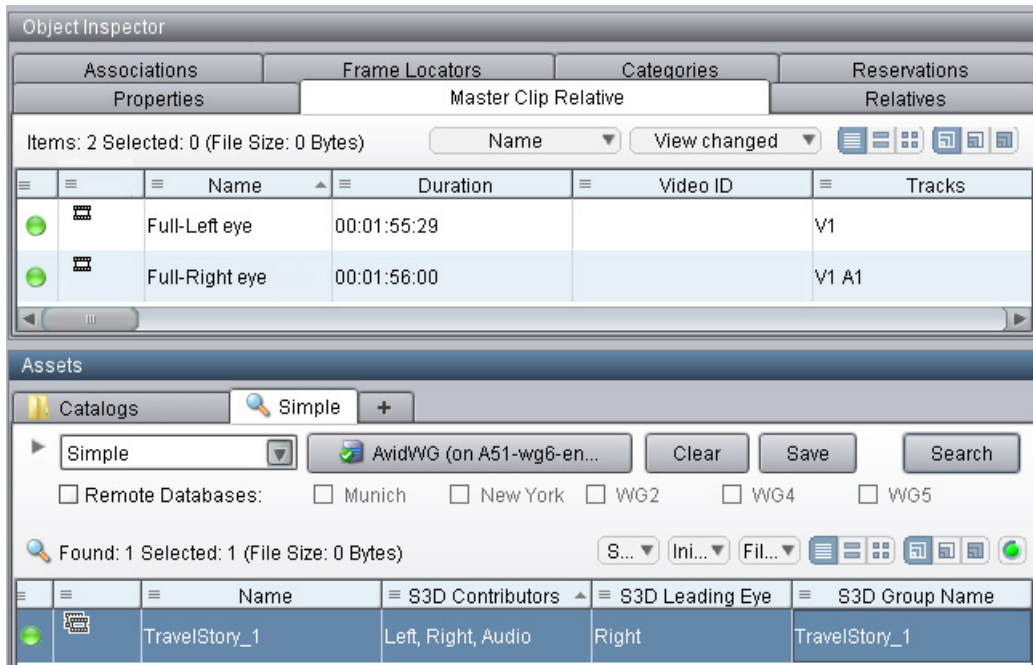
- Stereoscopic icons
- Stereoscopic properties
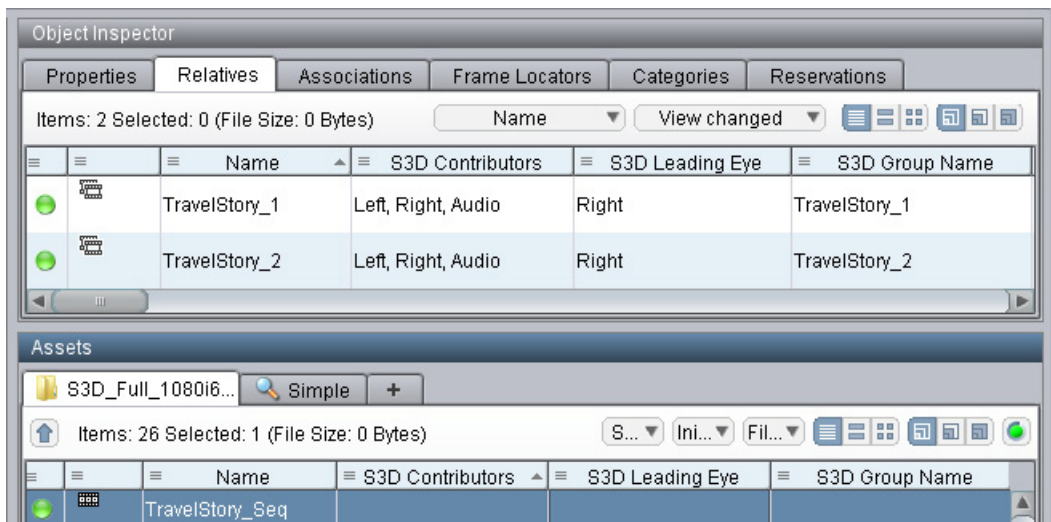- Stereoscopic search criteria

Stereoscopic Icons and Properties

Interplay Access uses the same icons for stereoscopic clips as Avid editing systems, as described in the following table.

Icon	Description
	Stereoscopic clip
	Stereoscopic subclip

The following illustration shows a stereoscopic clip in the Assets window and the related master clips (full left and full right) in the Master Clip Relative tab of the Object Inspector. The Assets window shows some of the stereoscopic property columns.

The following illustration shows a sequence in the Assets window and its referenced stereoscopic clip in the Relatives tab of the Object Inspector.

For a list of all stereoscopic properties available for display, see "Properties for Stereoscopic Clips" on page 212.

Stereoscopic Search Criteria

Interplay Access Search now includes the following criteria. To display the extended criteria, you need to enable them for display in the Property Layout view in the Interplay Administrator.

Type of Search	Criteria
Simple (Type field)	All stereoscopic clips
	Stereoscopic master clips
	Stereoscopic subclips
Extended	S3D Alignment
	S3D Channel
	S3D Clip Name
	S3D Contributors
	S3D Eye Ordering
	S3D Group Name
	S3D Inversion
	S3D InversionR
	S3D Leading Eye

Stereoscopic 3D Support in Interplay Transcode

Interplay Transcode v2.6 includes the following stereoscopic 3D support:

- Transcoding of stereoscopic clips, stereoscopic subclips, and sequences containing stereoscopic clips and subclips, in WHOLE and CONSOLIDATE modes.

- Mixdown of sequences containing only stereoscopic clips, stereoscopic subclips, or both. Metadata properties (column data) and DRM (restrictions) are preserved.

You can use MIXDOWN mode to change the stereoscopic project type of the sequence when creating a mixed-down clip. Options for creating a MIXDOWN profile now include an option labeled TargetStereoScopicProjectType.

The following table lists the stereoscopic project types you can select and the resulting mixed-down clips.

Stereoscopic Project Type	Master Clips Created	Stereoscopic Clip Created?
Monoscopic	One master clip	No
Leading Eye	One master clip for the Leading Eye footage only	No
Left eye only	One master clip for the Left Eye footage only	No
Right Eye only	One master clip for the Right Eye footage only	No
Side by side	One master clip with Left and Right images side by side	Yes
Over / Under	One master clip with the Left image above the Right image	Yes
Full	One master clip for the Left eye, one master clip for the Right eye	Yes

Note the following limitations:

- DUALMIXDOWN mode is not supported for sequences containing stereoscopic clips, stereoscopic subclips, or both.

- CROSSRATE mode is not supported for stereoscopic clips or subclips.

- Frame locators (markers) are not preserved during mixdowns.

- H.263 and H.264 resolutions are not supported as target resolutions for transcoding.

- Source resolutions and target resolutions for mixdowns are limited to the following:

    - 8-bit HD Uncompressed (1:1 MXF in Avid editing systems)

    - DNxHD (all resolutions, including DNxHD 1080p 444)

    - AVC-Intra 50 and AVC-Intra100

    See "Overview of Stereoscopic Support" on page 205 for specific project types and resolutions.

⊟ *For information about working with stereoscopic project types on an Avid editing system, see the* Avid Stereoscopic 3D Editing Workflow Guide*, which is available on the Customer Support Knowledge Base.*

⊟ *For information about creating a Transcode profile, see the* Avid Interplay Media Services Setup and Users Guide *or the Avid Interplay Help.*

Stereoscopic 3D Support in the Interplay Window, Interplay Assist, and Avid Instinct

Stereoscopic 3D clips are supported in the Interplay Window, Interplay Assist, and Avid Instinct in the same way as other master clips are supported. Playback of full S3D clips in Assist and Instinct uses the leading eye only, as set in the Avid editing application.

Properties for Stereoscopic Clips

The following properties are available for display in Interplay Access. To select properties for display, open the Property Layout view in the Interplay Administrator.

Bin column	Description
S3D Alignment	Displays whether or not the media has already been aligned by a third-party application. Presently, this is just an indicator for the editor. There are no software functions associated with this field. • None (Default) • Full: Indicates that media has been pre-aligned by an external application.
S3D Channel	Displays which channel this master clip will deliver into the stereoscopic clip. (Left eye, right eye and monoscopic are full frame channels, while Side by Side and Over/Under are frame compatible channels.) Left Eye: Indicates that the contents of this clip are to be used as the Left eye. Right Eye: Indicates that the contents of this clip are to be used as the Right eye. Over/Under: Indicates that this is frame compatible media in an over/under format. Side by side: Indicates that this is frame compatible media in a side by side format. Monoscopic: Indicates that this is a standard 2D clip (not stereoscopic).

Bin column	Description
S3D Clip name	Displays the name that was used to name the stereoscopic clip when it is created. The name only needs to be set for one of the contributing master clips. If no name is entered for any of the contributing clips, then the S3D Group name will be used instead.
S3D Contributors (master clip only)	Lists the S3D Channels (master clips) that feed into the stereoscopic clip.
S3D Eye Ordering	*Only available if the media is in a frame compatible format with the S3D Channel set to either Over/Under or Side by Side.* Specifies which half of the image the eye is displayed. Left-Right: • For Side by Side format, the Left eye is on the left, the Right eye is on the right. • For Over/Under format, the Left eye is in the top half of the image, Right eye is in the bottom. Right-Left: • For Side by Side format, the Right eye is on the left, Left eye is on the right. • For Over/Under format, the Right eye is in the top half of the image, Left eye is in the bottom.
S3D Group name	A common name used to identify all master clips originating from the same stereoscopic footage. The group name is used by the application to create a single stereoscopic clip that references these master clips. Therefore, this name must be exactly the same for all clips that need to be grouped into a stereoscopic clip. When material is captured from tape, this field is automatically populated for all the left and right eye master clips. When material is imported/linked from file, this data may not be present. If so, you can select the clips in the bin and request for auto-population of the group name. If an S3D Clip name is not specified, then the group name is used to name the stereoscopic clip when it is created.

Bin column	Description
S3D Inversion	Displays if and how the contents of this clip should be inverted before being used.
	This is useful when beam-splitter rigs are used during filming, and a mirror is used to create the image for one of the eyes. In this case, one of the eyes will be inverted so it needs to be corrected
	None: Leaves the image as is.
	Horizontal: Inverts the image horizontally.
	Vertical: Inverts the image vertically.
	Horizontal/Vertical: Inverts the image horizontally and vertically.
S3D InversionR	*Only available if the media is in a frame compatible format with the S3D Channel set to either Over/Under or Side by Side.*
	Displays how the part of the image that provides the right eye should be inverted before being used.
	None: Leaves the image as is.
	Horizontal: Inverts the right eye image horizontally.
	Vertical: Inverts the right eye image vertically.
	Horizontal/Vertical: Inverts the right eye image horizontally and vertically.
S3D Leading Eye (master clip only)	Displays which eye image should be used when editing with the leading eye.
	This is useful in scenarios where a beam-splitter rig was used during filming. In such a case, the leading eye is typically the non-reflected image.
	Left: (Default) Indicates that the left eye image is the leading eye.
	Right: Indicates that the right eye image is the leading eye.

14 DNxHD 100 Resolutions Supported in Interplay

Interplay v2.7 supports workflows for clips and sequences that use the DNxHD 100 group of resolutions. You can capture media that uses these resolutions on an AirSpeed Multi Stream system, work with it in an Avid editing application, check it in and out of the Interplay database, and process it using Interplay Media Services. You can use Interplay Transfer for workgroup-to-workgroup transfers. Sequences composed of DNxHD 100 clips are supported for Send to Playback.

Partial restore and delivery is supported for DNxHD 100 media.

The following table lists the supported resolutions. These resolutions are supported as sources and targets for Interplay Transcode.

Project	Edit Rate (frames/sec)	Resolution Name in Avid Editing Application	Resolution Name in Interplay Access and Interplay Transcode	Approximate Video Bit Rate (Mbit/Sec)	Raster Size
720p/23.976	23.976	DNxHD 40	DNxHD 720p 100	40 Mbit	960x720
720p/50	50	DNxHD 85	DNxHD 720p 100	85 Mbit	960x720
720p/59.94	59.94	DNxHD 100	DNxHD 720p 100	100Mbit	960x720
1080i/50	25	DNxHD 85	DNxHD 1080i 100	85 Mbit	1440x1080
1080i/59.94	29.97	DNxHD 100	DNxHD 1080i 100	100 Mbit	1440x1080
1080p/23.97	23.976	DNxHD 80	DNxHD 1080p 100	80 Mbit	1440x1080
1080p/24	24	DNxHD 80	DNxHD 1080p 100	80 Mbit	1440x1080

15 XAVC-Intra Resolutions Supported in Interplay

Interplay v3.0 supports workflows for clips and sequences that use XAVC-Intra resolutions. You can work with XAVC-Intra material in an Avid editing application, check it in and out of the Interplay database, and transcode it to other resolutions through Interplay Transcode. These resolutions are supported only as sources for Interplay Transcode.

The following table lists the supported resolutions.

Project	Edit Rate	Resolution Name in Access	Video Bit Rate (Mbit/Sec)	Raster Size
1080i	50	XAVC Intra 50 1080i 50 XAVC Intra 100 1080i 50	50 Mbit 100 Mbit	1920x1080
	59.94	XAVC Intra 50 1080i 60 XAVC Intra 100 1080i 60	50 Mbit 100 Mbit	1920x1080
1080p	23.976	XAVC Intra 50 1080p 23.976 XAVC Intra 100 1080p 23.976	50 Mbit 100 Mbit	1920x1080

16 Using Frame Chase Editing

This chapter describes how to use Frame Chase™ editing. Frame Chase editing (sometimes called "edit while capture") lets an Avid editing application that is part of an Interplay workgroup view and edit clips while they are being captured. Frame Chase editing is supported only when media is captured from a supported external device through Avid Interplay Transfer.

- Frame Chase Editing and Frame Chase Capture
- Understanding Frame Chase Editing
- Workflow for Frame Chase Editing
- Limitations When Working With In-Progress Clips

Frame Chase Editing and Frame Chase Capture

Frame Chase editing as described in this chapter always involves Interplay Transfer. You can also use the Capture tool on an Avid editing application to capture to shared storage. This technique is referred to as Frame Chase Capture. Frame Chase Capture also creates in-progress clips that are available for viewing and editing as soon as the initial check-in to Interplay takes place. For more information, search for "Frame Chase Capture" in your Avid editing application Help

Understanding Frame Chase Editing

Frame Chase editing is a time-saving feature that lets an editor view and edit media while it is being captured from a line feed or ingest device. After the capture starts, the editor can use the captured media to create a sequence, view the media as it is captured, and complete a sequence even before the capture has finished.

Clips that are in the process of being captured are referred to as in-progress clips. In-progress clips are indicated by the following icons:

	In-progress master clips		In-progress audio clips

When the capture is complete, the icon is replaced by the standard master clip or audio clip icon. To view the updated icon in the Interplay Window, press F5. To view the updated icon in a bin, select Bin > Update from Interplay.

Frame Chase editing is available only in an Interplay workgroup that includes Avid Interplay Transfer and a supported external device. Media must be in the MXF format. The process consists of three basic parts:

*   A capture is started on a line feed or ingest device (for example, an Avid AirSpeed video server). This capture is controlled by an application such as Avid CaptureManager. Depending on the device, you can also "hot record" a clip by using controls on the device itself.

*   After the capture begins, the Interplay Transfer software on the AirSpeed checks the in-progress clip into the Interplay database. Interplay Transfer also manages the transfer of media to Avid shared storage.

*   The editor or journalist loads the in-progress clip. You can work with in-progress clips on an Avid editing system, Avid Instinct, or Avid Interplay Assist. On an Avid editing system, you can work directly from the Interplay window, or you can check out a clip to a bin.

The following diagram illustrates these basic parts of the process.
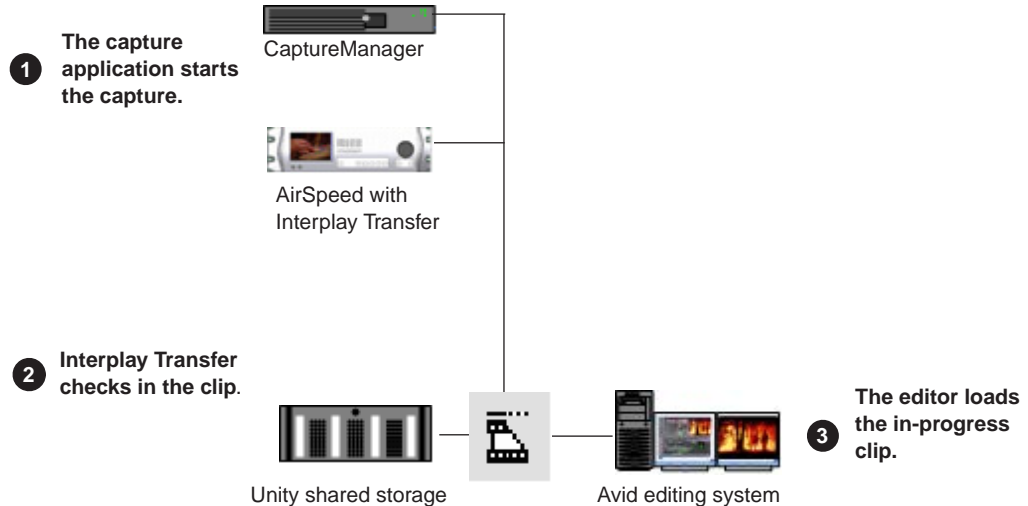
The length of an in-progress clip is based on the expected duration of the capture. For on-the-fly or open-ended captures, the length of the clip is based on the maximum capture time set by the capture application. The Frame Chase process creates one media file for each track of the

captured media. As a capture continues, the size of the associated media file increases. After the capture is complete, the clip is updated to reflect the actual duration of the capture and the in-progress icon is replaced by the standard icon.

The default duration on an AirSpeed server is one hour (01:00:00:00). When the capture is complete, the duration is updated. If a clip goes beyond one hour, the default duration is two hours (02:00:00:00).

Frame Chase editing is supported in a dual-ingest configuration, in which both a low-res and a high-res version of a clip is created. When an editor loads an in-process clip, the version that is displayed is determined by one of the following:

- If dynamic relink is enabled, the dynamic relink settings determine which version is displayed.

- If dynamic relink is not enabled, the latest version checked in to the Interplay database is displayed.

For more information about dual-ingest configurations, see the Avid CaptureManager Installation and Configuration Guide. For more information about dynamic relink, see "Using MultiRez and Dynamic Relink" in the Help for your Avid editing system..

Workflow for Frame Chase Editing

The following workflow is one example of how to use Frame Chase editing. This workflow includes the following components:

- An Avid editing system that is an Avid Interplay client. This workflow uses Avid NewsCutter Adrenaline. It also uses the Interplay Window to access the Interplay database.

- A supported line-feed or ingest device. This workflow uses an Avid AirSpeed server.

- A capture application. This workflow uses Avid CaptureManager software, which schedules the ingest on the AirSpeed server.

- Avid Interplay Transfer software. In this workflow, the AirSpeed server contains its own version of Interplay Transfer.

You can adapt this workflow to suit the requirements of your working environment.

In this example workflow, an editor uses Avid NewsCutter Adrenaline to create a news story from a timed feed. CaptureManager has been set up to work with an AirSpeed server to automatically create clips of a set duration from the feed, as shown in the following illustration.

To use Frame Chase editing:

1. Make sure that the ingest device is properly connected and set up for recording and transfer.

2. On the Avid editing system, make sure an Avid shared storage workspace is mounted.

3. Open the Avid editing application, open a project, and open the Interplay Window.

4. In the Interplay Window, navigate to the folder that holds the clip that you want to use for editing. If you know some information about the clip, you can use the Search feature.

   A clip that is being captured displays an in-progress icon.
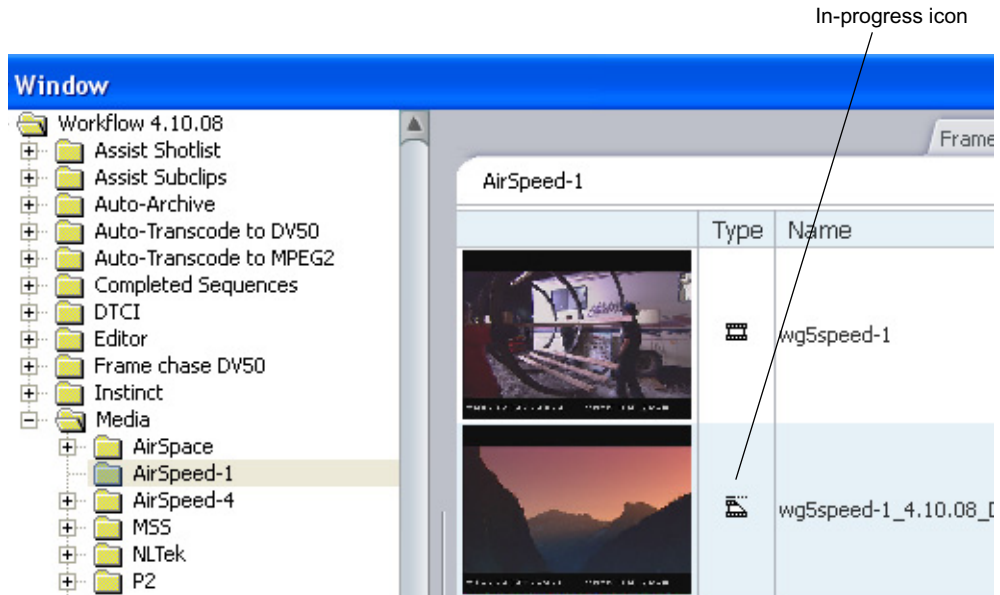
In-progress icon

5. Load the clip into the Source monitor and play the clip.

The clip plays in the Source monitor at the same time the media is being captured.

> *Portions of a clip that are not currently available display a "Capture in Progress" slide until the sections are captured.*
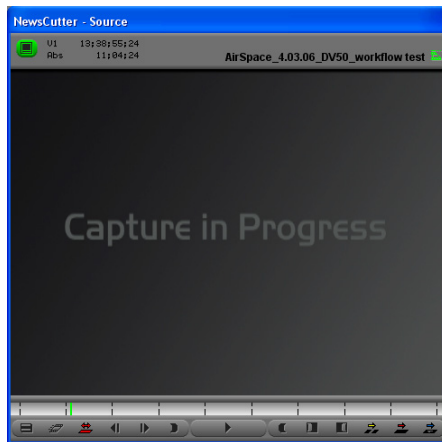
> *In Avid Instinct or Avid Interplay Assist, press Alt+F5 to update the media displayed in the monitor.*

6. Create a sequence in a bin on your Avid editing system.

7. Use standard editing techniques to build a sequence from the in-progress clip.

8. When the clip is completely captured, select Bin > Update from Interplay.

   This command ensures that the latest version of the clip is used in your sequence. For more information, see "Updating Remote Assets in a Bin" in the Help for your Avid editing system.

9. Save the sequence and prepare it for playback.

Limitations When Working With In-Progress Clips

During the capture process the final length of the clip is unknown until the capture is complete and the clip information is updated. Because of this, there are some limitations when you work with in-progress clips.

The following editing functions are limited to working with the available captured media of an in-progress clip:

- Editing in-progress clips into a sequence — You can edit the captured portions of in-progress clips into a sequence.

- Subclips — When creating a subclip from an in-progress clip you must place the IN and OUT points where media has already been captured and is available.

- Trimming — The right-side trim limit of an in-progress clip is determined by the currently available media. When you trim an in-progress clip to the end of available media the trim functions as if it had reached the end of the clip. As more media is captured the trim limit increases. Performing the trim at a later time might allow more trimming as more media might become available.

The following editing functions are not available when working with in-progress clips:

- Clip duplication — Duplication of an in-progress clip is not allowed because the duplicated clip loses its relationship with the original in-progress master clip.

- Group clips — You cannot use an in-progress clip in a group clip, because the length of an in-progress clip is unknown until the capture is complete. Group clips are based on the length of the contributing clips. This limitation applies to all of the related grouping operations, such as AutoSync, Group Clips, and MultiGroup.

- Consolidate, Transcode, and Audio Conversion — You cannot use consolidate, transcode, or audio conversion with an in-progress clip. All the media must be available and the length of the clip known before you can perform these functions. However, you can use consolidate and transcode on subclips and sequences that reference or contain in-progress clips. In these cases, any right-side handles are restricted by the known media duration of the in-progress clip at the time of the operation.

For example, if you set 2 second handles but there is only 1 second of media available for a handle at the time the consolidate or transcode operation is executed, then the right-side handle is restricted to 1 second.

• Decompose — The restrictions for decompose are the same as consolidate and transcode. The right-side handles cannot exceed the known media duration of the clip.

• Non-Check-in export — You cannot export an in-progress clip or a sequence that contains in-progress clips because the final clip length might be different than the clip length at the time of the export.

• Variable-bit-rate media — The only variable-bit-rate (variable-frame-size) media supported for Frame Chase editing is low-res long-GOP MPEG-2 media captured by the Avid Interplay low-res encoder. Only media captured by supported ingest devices is supported for Frame Chase editing.

• Using the Capture tool—Frame Chase editing is not available on an Avid editing system that is using the Capture tool to capture media.

17 **Additional Interplay Topics**

This chapter covers the following topics:

- Changing Source Information for a Clip in Interplay
- Ingest and Playout of Ancillary Data
- Dynamic Relink: Working with a Single Resolution
- Disconnecting an Avid Editing Application from the Interplay Environment

Changing Source Information for a Clip in Interplay

There are two types of source information that usually should not be changed for a master clip in an Interplay environment:

- Source tape name
- Timecode format (changing between drop frame and non-drop frame)

The tape name and timecode format are part of the source information for a clip and changing them may cause the clip to become offline whenever Dynamic Relink is activated. Once this happens, the relation of the clip to its media can be permanently lost.

If it is necessary to change the tape name or timecode format for a master clip in an Interplay environment, use the procedure described in this section.

You only need to perform this procedure if both of the following statements apply:

- If your site uses Dynamic Relink. If your site does not use Dynamic Relink there is no need to perform the procedure.
- If you are associating a master clip with a different tape name or timecode format. If you are simply changing the name of an existing tape you don't have to perform the procedure.

To change the tape name or timecode format for a clip in an Interplay environment:

1. Disable Dynamic Relink. See the Avid editing application Help or the Interplay Help for information on Dynamic Relink.
2. Right-click the master clip in the bin and select Modify > Set Source.

3. To change the tape name, do the following:

   a. Select Set Source from the Modify dialog box popup menu. The Select Tape dialog box opens.

   b. Change the source tape name. Use an existing tape name or create a new one.

4. To change the timecode format to drop or non-drop frame, do the following:

   a. Select "Set Timecode Drop/Non-drop" from the Modify dialog box popup menu.

   b. Select the format and click OK.

The media will remain online at this point because Dynamic Relink is turned off.

5. Consolidate the clip to generate new media that will be associated with the newly selected tape name. Use the following options:

   - Uncheck "Skip media files already on the target drive"

   - (Option) check "Delete original media files when done"

   - Use the default settings for all other conversion parameters

   The system generates new media files that will reference the correct tape name or timecode format. See the Avid editing application Help for additional information on the Consolidate command.

6. Re-enable Dynamic Relink.

7. Double-click the clip in the bin to trigger the relink. The media will be online and linked correctly to the adjusted tape name.

Ingest and Playout of Ancillary Data

Interplay v2.2.1 and later provides limited support for ancillary data. (Closed Captioning conforming to SMPTE 436-M is a common form of ancillary data.) The following limitations apply:

• Ancillary data is only supported with HD material

• Interplay supports one track of ancillary data

• VBI-based ancillary data is not supported

• For successful playback, sequences must be made up of clips captured by the same vendor's hardware. See "Playback Limitations" below.

The following table lists editor and AirSpeed Multi Stream ingest and playout capabilities for HD resolutions that support ancillary data in an Interplay environment.

Resolution with Ancillary Data	Editor Capture[a]	AirSpeed Multi Stream Ingest/STP	Supported with Ancillary Data for Interplay v2.2.1[b]
XDCAM HD	Yes	Yes	Yes
AVC-Intra	Yes	Yes	Yes
DNxHD	Yes	Yes	Yes

a. Captured with DX hardware and a device that supports ancillary data. For details, see "Ancillary Data and Avid Editing Functions" in the Avid editing application Help.
b. Support includes check in and check out to Interplay database, Media Indexer support, and send to playback.

Playback Limitations

Since there are variations in how ancillary data is encoded and decoded with different vendor's hardware, composition sequences created for a Send To Playback destination must use ancillary data captured or ingested using the SAME vendor's hardware and tools. Sequences with mixed-vendor ancillary data are not supported since mixed-vendor ancillary data is not guaranteed to decode and play correctly.

Support for AFD Ancillary Data

Active Format Description (AFD) is a standard set of codes through which the preferred display format for media can be embedded in video signals. Media Composer v6.1 and later allows the creation of AFD values for sequences in an ancillary data track (D1).

For more information, see the Media Composer documentation.

Interplay v2.7 and later supports workflows for sequences that include modified AFD values. AFD values are preserved when you check sequences in and out of the Interplay database, process them through Interplay Media Services, and use Interplay Transfer for workgroup-to-workgroup transfers and send-to-playback operations. AFD values are displayed in the metadata property labeled AFD, which can be displayed in an Avid editing application bin and in Interplay Access.

Working with AFD Values on Avid Editing Systems

When you add an AFD value to a Media Composer sequence, you add the value to the entire sequence. If there is not already a D1 track in the sequence Timeline, Media Composer creates one.

The D1 track must be present and monitored during playback to display the AFD value when the sequence is played back through an ancillary data decoder. Deleting the D1 track prevents display of the AFD value, but it does not remove the assigned AFD value from the sequence.

When you add an AFD value to a sequence, the Timeline display depends on whether there is already a D1 track in the Timeline.

Sequences that do not have a D1 track: When an AFD value is assigned to a sequence without a D1 track, an empty D1 track is created in the sequence to store the AFD value. The D1 track in the Timeline does not display essence for the AFD value.

Sequences that already have AFD values in a D1 track: When you assign an AFD value to a sequence whose master clips already have AFD values in a D1 track, the sequence in the Timeline does not display essence for the new AFD value. However, during playback, the new AFD value supersedes the AFD values for the master clips.

The following illustration shows a Timeline in which an AFD value has been applied to the sequence. The D1 track for the first master clip is empty: it does not include essence. The D1 track for the second master clip includes essence with an AFD value. This value is superseded by the AFD value applied to the sequence.
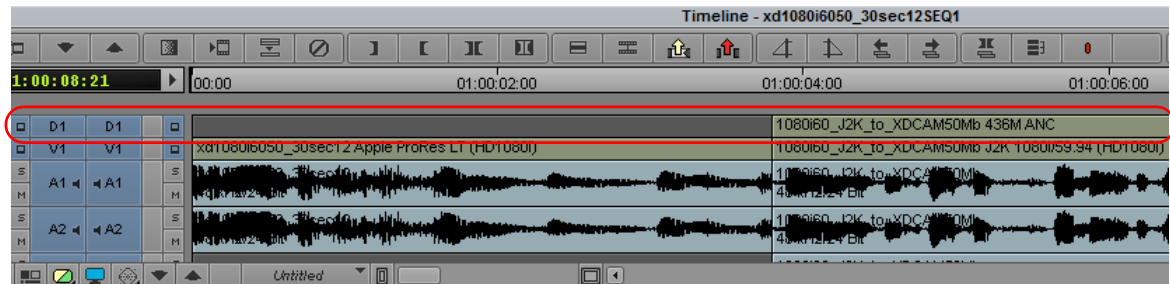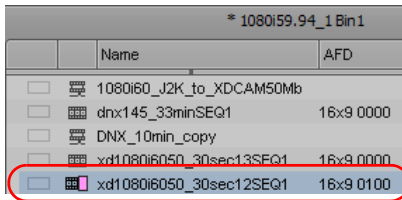
AFD Values and Send to Playback

The modified AFD value is preserved through a send-to-playback operation, resulting in an asset on the destination playback server that holds the AFD value of the sequence in a D1 track with data essence. If the user on an Avid editing system assigns an AFD value, then deletes a sequence's D1 track before sending it to the playback server, the AFD value will be written on a newly created D1 data track.

Dynamic Relink: Working with a Single Resolution

The term MultiRez refers to having a single master clip associated with multiple resolutions. You use Dynamic Relink to allow the system to automatically switch between the different resolutions depending on whether you are working with your working resolution or target (output) resolution. If you are not using MultiRez in your Interplay environment, you can either specify a single resolution for the Avid editing application or turn the feature off altogether. For Avid Assist and Avid Instinct you can turn the feature off in the Interplay Administration tool.

Restricting Clips to a Single Resolution

This section describes how to set values in the Dynamic Relink dialog box if you know that you will only be working with one resolution.

For Sites that Use Only One Resolution

If your site never creates multiple resolutions of the same master clip, you can disable Dynamic Relink in the editing applications.

To turn off Dynamic Relink:

1. In the Avid editing application, open the Project window and click Settings.
2. Open the Dynamic Relink dialog box and deselect the Enable Dynamic Relink checkbox.

For Sites that Use Multiple Resolutions of the Same Master Clip

If your site uses multiple resolutions of the same master clip but you always want to use the same resolution in your Avid editing application, you should enable Dynamic Relink and use the "Override Working and Target Setting" option.

To use just one resolution in an Avid editing application:

1. Open the Dynamic Relink dialog box and click "Override Working Settings with Target Settings". This makes the working and target resolutions the same.
2. Set the target resolution to the resolution you want to use.

The problem with disabling Dynamic Relink in this case is that if there are different resolutions of the same clip used at your site, you always get the "currently checked in resolution" when you check a clip out of the Interplay Window. For example, if another user had transcoded your clip to a different resolution and checked it in, you would get that resolution the next time you checked it out. When you use the Override option you are assured that you will be working with the resolution that you want.

Turning Off Dynamic Relink for Avid Assist and Avid Instinct

Avid Interplay Assist supports the ability to disable dynamic relink. Dynamic relink allows you to link your working media to a target resolution for send-to-playback operations. If your workflow doesn't require dynamic relinking, you can disable this feature.

You set dynamic relink options in the Avid Interplay Administrator in the Editor Database settings and in the Instinct/Assist User settings. If you enable dynamic relink, you must also change the following relink options from the default value ("not set") before the functionality is applied to a site or a user.

Option	Setting	Description
Send to playback (Editor Database Settings)	Target resolution, primary	Sets a resolution for output to a playback device. The default is DV 25 411.
	Audio Target Resolution	Sets an audio resolution for output to a playback device. The default is PCM.
		Also sets the Sample Rate and Bit Depth of the audio for playback.
Video Settings (Instinct/Assist User Settings)	Working Resolution	Sets the user's working video resolution.
Audio Settings (Instinct/Assist User Settings)	Working Resolution	Sets the user's working audio resolution. If the working resolution is set to PCM, you can select a sample rate and a bit depth for audio clips.
Format	Video Format	(Avid Instinct only) Sets the default video format for your sequences Select a format or select Any. If you select Any, Avid Instinct allows you to select a video format for your sequence when you create a new story.

Disconnecting an Avid Editing Application from the Interplay Environment

Starting at Interplay v1.1.1, Interplay supports a Disconnected Client mode that allows you to work while disconnected from the Avid Interplay environment.

There are two basic cases when you might want to voluntarily disconnect an Avid editing application from the Interplay environment:

- If you have a laptop that you want to disconnect from the network and then use it to work with media on your local drives.
- If the Service Framework is not available and you want to continue working on your local drives.

Your system administrator might also perform a forced disconnect on your system in case of software installation or system update.

For details on the capabilities and limitations of disconnected mode, see the Interplay Help and the ReadMe for your Avid editing application.

18 Working with Avid Interplay Media Indexers

This chapter covers the following topics:

- New Features Added for Media Indexer
- Media Indexer Overview
- Web-Based User Interface
- Managing Media Indexers in an Interplay Environment
- Troubleshooting Media Indexer
- Media Indexer Health Monitor Options

New Features Added for Media Indexer

The following new features are added for Media Indexer v3.0:

- There is a new method for connecting Avid editing clients to the HAG. See the *Interplay v3.0 What's New* and the *Interplay Software Installation and Configuration Guide*.

- Media Indexer v3.0 can index and relink to AMA material. See "How the Media Indexer Works with AMA Material" on page 126.

The following information was added at Interplay v2.6 and v2.7:

- "Multiple ISIS Support" on page 232
- "Changes for Log Files and Cache Files" on page 233
- "Improved File Scanning" on page 236
- "Managing the Order of Storage Locations" on page 238
- "Viewing the Size of Indexed Workspaces and Folders" on page 238

At Interplay v2.4 there were several new features added to the Health Monitor for Media Indexer. See "Media Indexer Health Monitor Changes" on page 275.

Multiple ISIS Support

One Media Indexer can index two or more ISIS systems in the same Interplay workgroup. The following limitations apply:

- The Media Indexer must be running on an AS3000 with at least 12 GB of RAM. The Intel SR2500 is not supported for Multi ISIS indexing.

- Each MI in the HAG must have access to all of the available ISIS workspaces. For information on setting up and configuring ISIS systems, see the *Avid Products and Network Site Preparation Guid*e and the Setup Guide for your ISIS product.

- Configure the ISIS client on the MI to recognize all available ISIS systems. Use the Remote Host Settings button to connect to additional ISIS systems as shown in the following illustration.
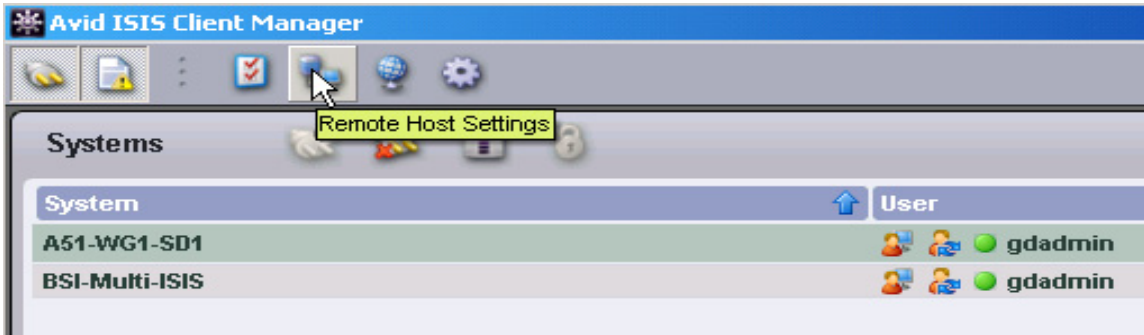
- Configure the leader of the HAG to see all of the storage locations that you want to access on both ISIS systems. For example, the following illustration shows connections to the workspaces on two ISIS systems. The two System Directors are named A51-wg1-sd1 and BSI-Multi-ISIS.
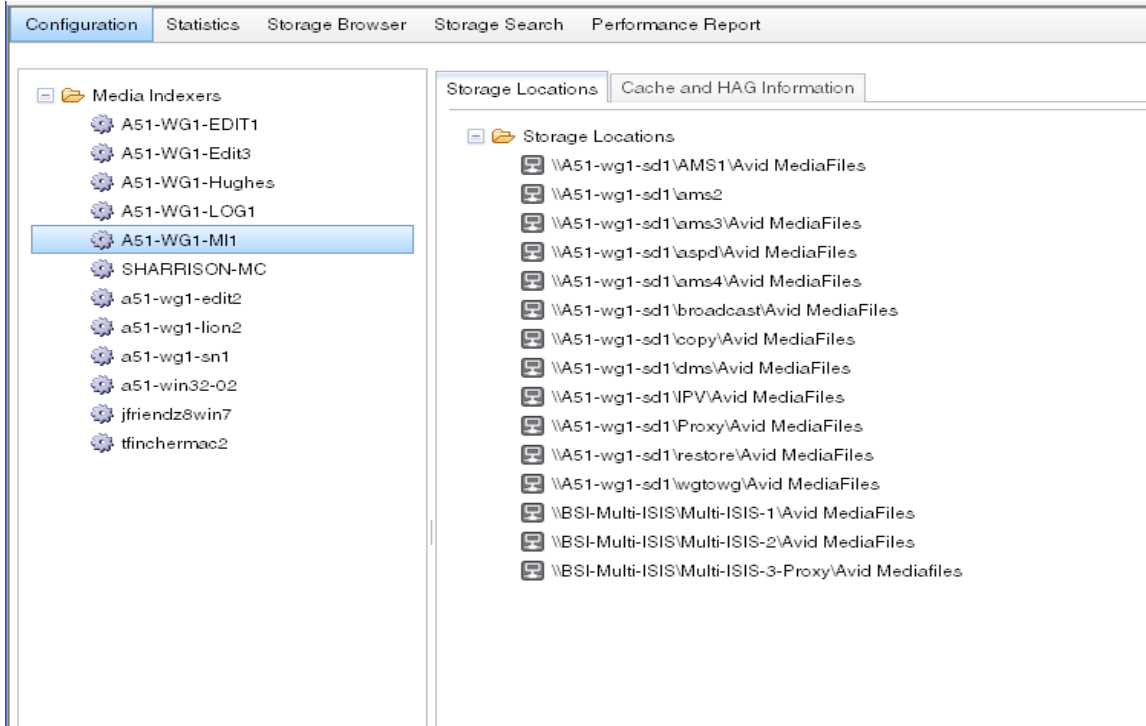
Changes for Log Files and Cache Files

Starting with Media Indexer 2.6, the log and cache files are located in the following folder on Windows 7, Windows Server2003, and Windows Server 2008:

%ALLUSERSPROFILE%\Avid\AvidMI

This usually translates to the following location:

C:\Program Data\Avid\AvidMI

On a Macintosh editor, the log and cache files are in the following location:
- log files: /Applications/Avid Media Indexer/state/log
- cache files: /Applications/Avid Media Indexer/state

Archived Log Files

Log files are now automatically archived in the following folder:

%ProgramData%\Avid\AvidMI\log\archive

This usually translates to the following location:

C:\Program Data\Avid\AvidMI\log\archive

One zip file per day is stored in the folder with the following limitations:

- If there is less than 10 GB free space on the drive that stores the log and cache files, the MI starts removing zip files, oldest first, until more than 10 GB is free. Note that the current day's archive is not removed.

- Zipped log archives are removed automatically by size and age restrictions. The details of the restrictions are configurable in the jini.config file at the following location on a Windows system:

    %PROGRAM FILES%\Avid\AvidMI\state\config\jini

On a Macintosh editor, the log archives and jini config files are in the following locations:

log archive files: /Applications/Avid Media Indexer/state/log/archive
jini config file: /Applications/Avid Media Indexer/state/config/jini

Default jini config file values

The default values for configuring the saving and purging of archive files are as follows:

// Period for scheduling task which purges log archives (in milliseconds).
static archivesPurgerPeriod = new Long(300000);

// Retained archives count for task which purges log archives.
static archivesCount = new Integer(60);

// Retained archives size for task which purges log archives (in bytes).
static archivesSize = new Long(104857600);

Different Format of Media Indexer Cache Files

Starting with Media Indexer 2.6, the cache files have different names and format. Note that cache files are binary files and are not intended to be human-readable.

adapters.cache

The adapters.cache file contains information about which workspaces or file locations are configured for indexing. In the case of a local MI, it also identifies the MI server in the HAG that the local MI is connected to. For those familiar with the MI cache files, the information that used to be contained in the ummds.cache files is now in adapters.cache.

quality.cache

The quality.cache file contains information about the quality or resolution of indexed files. For those familiar with MI cache files, this information used to be in the ummds.cache file.

metadata_xx_y.cache

The metadata cache files are the persistent storage for the actual essence metadata that the Media Indexer is monitoring. While the adapters.cache file has the information about which locations on the file system to index, the metadata_xx_y.cache file contains the result of indexing those locations. On a local MI, the results will only contain data that is indexed locally, while on a server MI, the results will usually contain results from indexing shared storage.

For those familiar with MI cache files, the information that used to be contained in the channelxxx.cache is now in the metadata_xx_yy.cache files. For Interplay v2.6, the xx is always 20 for MI 2.6. y will be numbered from 1 to 20. Data will be spread across these files.

adapters.txt

Adapters.txt is a readable file that contains the configured workspaces for the MI. MI keeps that in sync with the caches but does not need this for loading data from the cache. The file is informational only and is overwritten each time the cache is flushed or the storage locations are changed. The file is basically a readable version of adapters.cache. The MI does not read any information from the file.

Changes in Behavior for Local Media Indexers

The local MI no longer caches data that is available on the MI server. Refer to the MI server cache files for that information.

Using the UTest Diagnostic Utility

For troubleshooting MI issues, you can consult the MI Web interface for the individual MI or use the UTest diagnostics tool.

This section provides tips on using UTest. This tool is typically used by Customer Support.

Do not use the UTest diagnostic utility to connect to a running Media Indexer because it will impact the ability to properly report online/offline status of media.

Because of the format and name changes for cache files, older versions of UTest will not work with MI v2.6 or later. You must use the v2.6 version or later. Also note that the cache files from MI v2.6 or later will not work with older versions of UTest.

Using the Graphviz Tool to View a Generated Report

When using the UTest Dump feature, you must use the Graphviz tool to view the generated report. For information about Graphviz, see the following web page:

http://www.graphviz.org/

Install the Graphviz tool at one of the following locations depending on whether the system has a 32-bit or 64-bit architecture:

• %ProgramFiles%\ATT\Graphviz\bin\dot.exe

• %ProgramFiles(x86)%\ATT\Grraphviz\bin\dot.exe

The generated report can be converted into an image on a system that has the Graphviz tool installed. Enter the following command line (assuming dot is in the path).

dot \-o . \-Tpng \-Kdot <your-dot-file>

When you enter the above command, the dump feature converts the dot file to an image. The operation will fail if graphviz is not installed.

Compare Option Removed

The compare option for UTest is no longer available starting at MI v2.6.

In order to compare two reports, simply compare them using a diff tool, such as kdiff3.

Commit Cache Files Before Creating Tabledump Report

The UTest tabledump report creates text file reports from the cache files at a location that you specify. When you are ready to generate a tabledump report, it is useful to flush the cache files to disk so that the files on disk represent the actual status.

Open the Service Framework Service Configuration tool and navigate to the Avid Interplay Media Indexer of interest. Then click the "Commit Immediately" button. As soon as the cache files are written to disk, the tabledump report can be generated from the freshly created files to reflect current data in the reports.

You can perform this same operation in the Configuration window of the Media Indexer web-based user interface. If there is more than one MI in the HAG you need to perform the operation on each MI that you are interested in.

Improved File Scanning

Before MI v2.6, Media Indexer performed file scanning on a per workspace basis. There was a single scanning process for each workspace.

Starting at MI v2.6, scanning is done on a per folder basis. Media Indexer maintains a pool of active workers and the workers select from a queue of folders that must be scanned. When a worker finishes scanning a folder it selects another folder from the queue.

You can use the Media Indexer web-based user interface to view the progress of the file scanning. This value (Current Queue Length) is displayed in the Statistics window as shown in the following illustration:
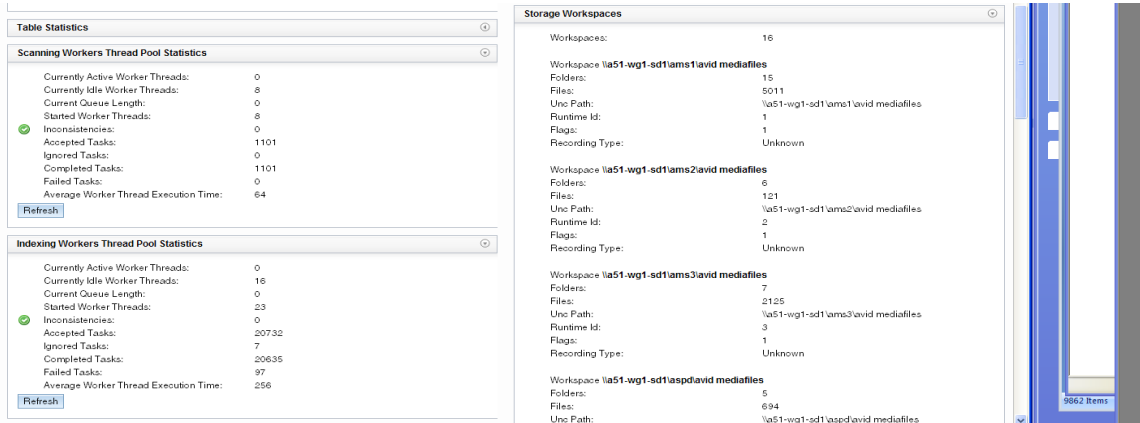
The Current Queue Length value shows the number of folders that must still be scanned. Note that the display is not dynamic. Click the Refresh button to update the value. For additional information, see "Web-Based User Interface" on page 242.

Files Per Folder Limitations

Avid strongly recommends that you keep no more than 5,000 files in an ISIS folder that is being indexed by a Media Indexer. The number of files per folder affects the speed at which the MI can traverse the folder. MI must traverse a folder when one of the following occurs:

- When the MI starts up and must rescan the folders

- When the MI starts up with an empty cache

- During a daily resync

- When you delete, move, or rename a file or folder

Note that the limit of 5,000 items per folder also applies to the number of assets in an Interplay database folder.

Managing the Order of Storage Locations

Media Indexer v2.7 added support for changing the order of storage locations. This feature is already available in the Service Configuration tool. The following illustration shows the new buttons.
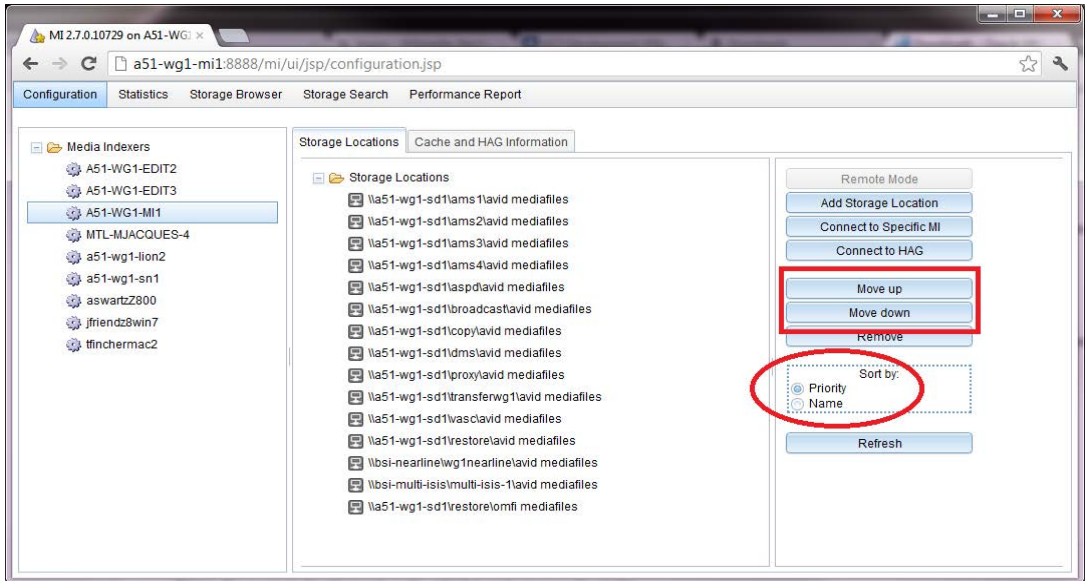
- Move up and Move down buttons: Allow you to move the storage locations within the list. When Sorting by Priority is enabled, you can manage the priority by moving the storage locations up and down in the list. The highest priority storage location is at the top of the list.

- Sort by buttons: Allow you to switch between the default priority order and alphabetical order.

📖 *In the case of a local Media Indexer, the local results are always returned before the results from the Media Indexer HAG.*

Viewing the Size of Indexed Workspaces and Folders

You can view the total size of the files indexed by a storage location and by a particular folder. The following illustration shows the total size of each storage location in the Statistics tab.
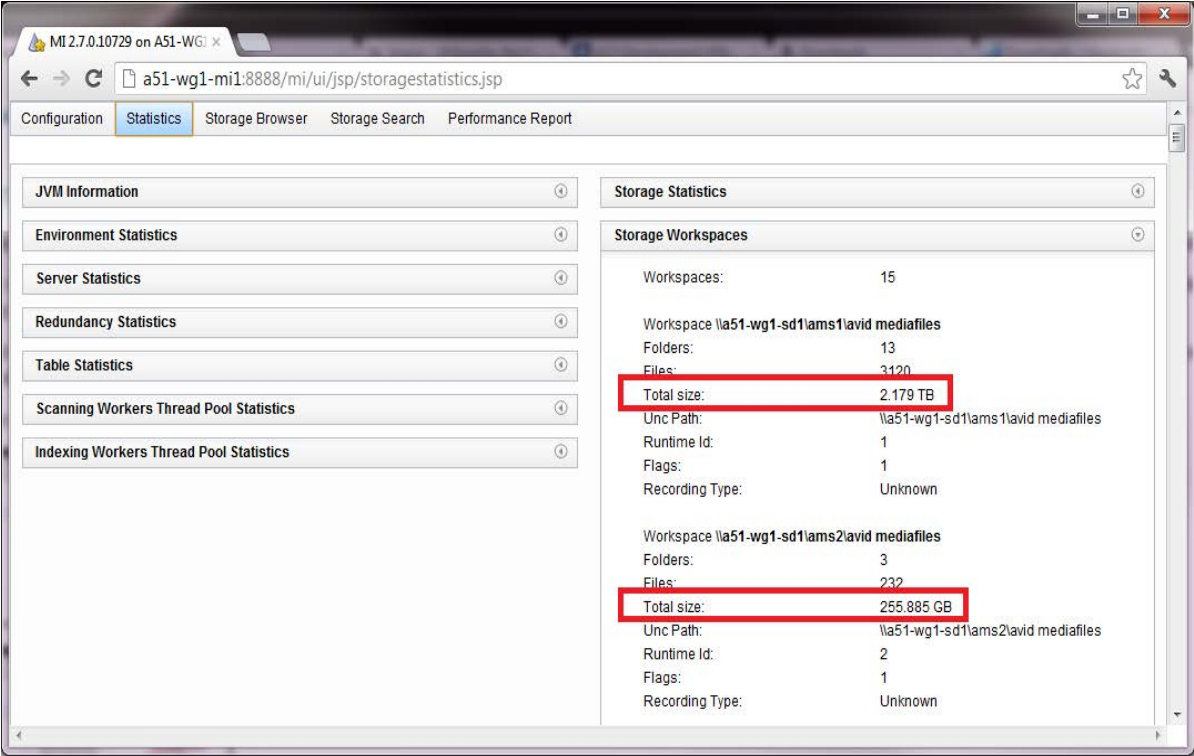
📰 *The Media Indexer only calculates the size of files that are indexed. If there are non-indexed files in the folder they are not reported in this value.*

The following illustration shows the size of folders in the Storage Browser tab. The Deep value is the size of the currently selected folder and all subfolders under this folder. The value on the right is the size of the currently selected folder. In this example the top folder is empty but the subfolders contain indexed media.
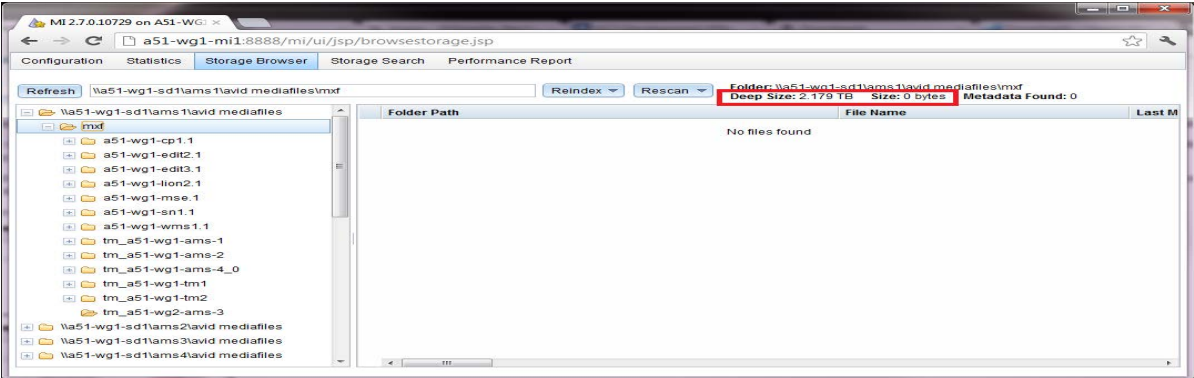
Media Indexer Overview

The Avid Interplay Media Indexer is a background service that keeps track of media files in storage locations that you identify.

In an Avid Interplay environment, each Avid editing system has its own local Media Indexer that manages the local storage areas on that system. Each Avid Interplay environment also has at least one Media Indexer that manages media on shared storage. When the Avid editing system needs to access media on shared storage, it communicates with its local Media Indexer, which then communicates with the shared storage Media Indexer.

This chapter provides an overview of the procedures required to configure Media Indexers. For configuration details, see the *Avid Interplay Software Installation and Configuration Guide*.

Configuring Media Indexers

At a small site, configure one Media Indexer as a High Availability Group (in this case, a group with one member) and configure it to index your Avid shared storage workspaces as shown in the following illustration.

High Availability Group (HAG)

Media Indexer 1

Workspaces 1 through 3

Workspaces 4 through 6

Local Media Indexer connects to High Availability Group

Avid editing application
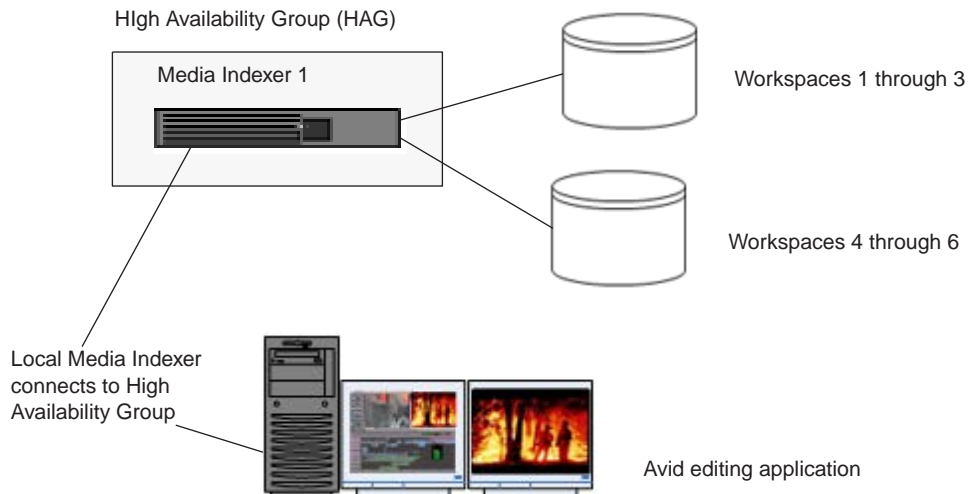
📖 *On a small system you might have the Media Indexer that monitors shared storage running on the same system as the Avid Interplay Engine.*

You can add additional Media Indexers to a High Availability Group for the following reasons:

- Load balancing: The Avid editing applications randomly connect to the different members of the group. This helps spread the load over the Media Indexers.

- Adding redundancy to the High Availability Group: If the leader of the group goes offline, the Media Indexer with the highest weight automatically takes over as leader.

The following illustration shows a second Media Indexer added to the High Availability Group. You configure the leader of the group to monitor shared storage. Media Indexers that you add to the group automatically monitor the same storage locations as the leader.
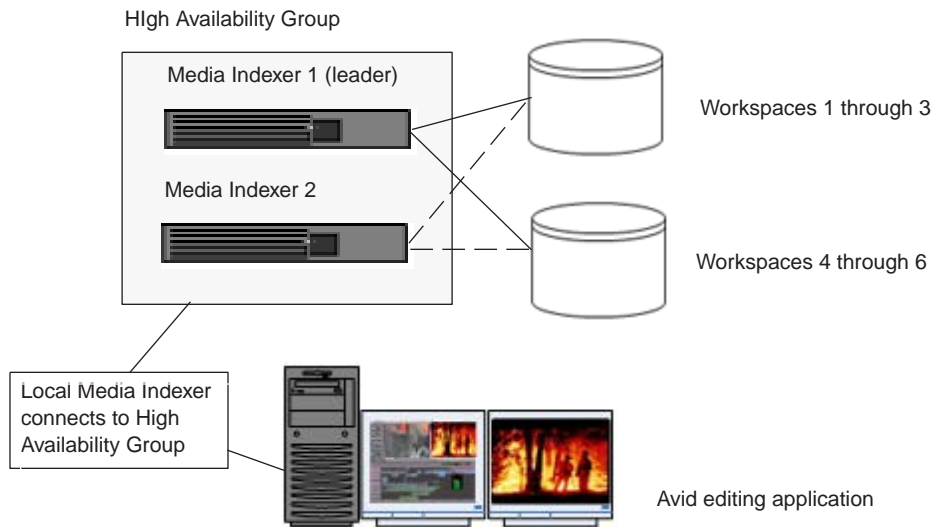
When you configure a Media Indexer to join a High Availability Group, you specify the name of the group and assign a weight value to the Media Indexer that is joining the group. The Media Indexer with the highest weight value is the leader.

Web-Based User Interface

Media Indexer v2.6 introduced a web-based user interface for configuring and gathering information about Media Indexers. You can use a browser to access the user interface on port 8888 as follows:

http://<*MI system name*>:8888/mi

For example:

http://a51-wg1-mi1:8888/mi

Note that the Media Indexer uses the first available port from 8888 through 8892. When setting up a Media Indexer, make sure that these ports are available. For additional information, see the Port Usage chapter in the *Interplay Software Installation and Configuration Guide*.

Each MI running v2.6 or higher hosts its own web-based user interface. This includes MIs on editor systems. The web-based user interface is only available while the Media Indexer application is running.

Configuration Section

Click the Configuration tab to open a window that works similarly to the Service Framework Service Configuration tool. This allows you to configure a Media Indexer from any Windows system even if the Service Framework is not installed on your local system. The following illustration shows the Configuration window.
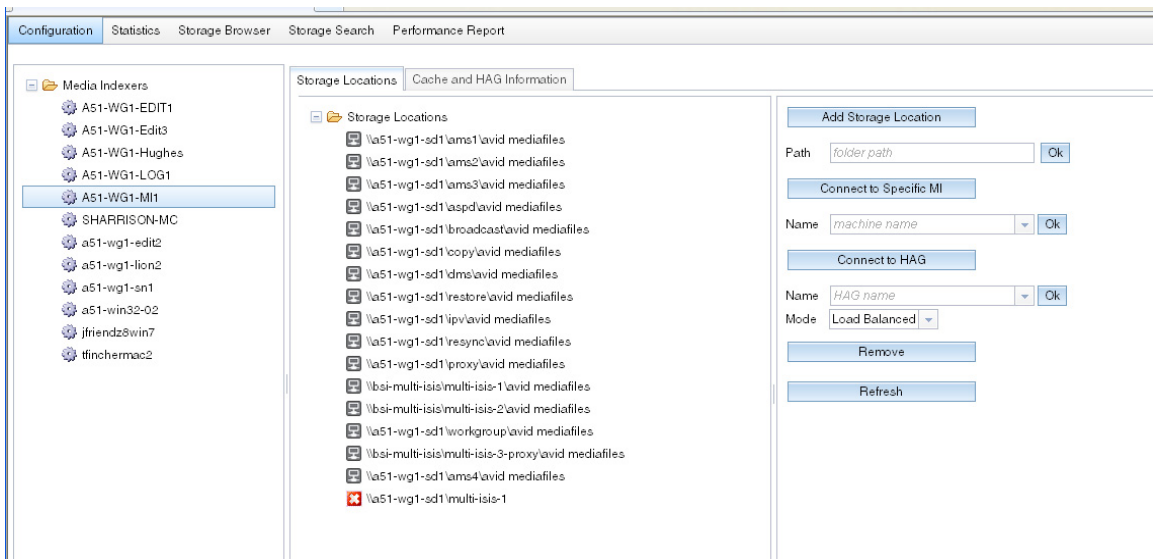
In the case of local storage on an editor, the MI displays the full UNC path to the storage location as well as the local path to the media files. The following illustration shows the configuration for an editor named a51-wg1-sn1. It is connected to the HAG (via the MI named A51-WG1-MI1) and has local storage on the C: drive.
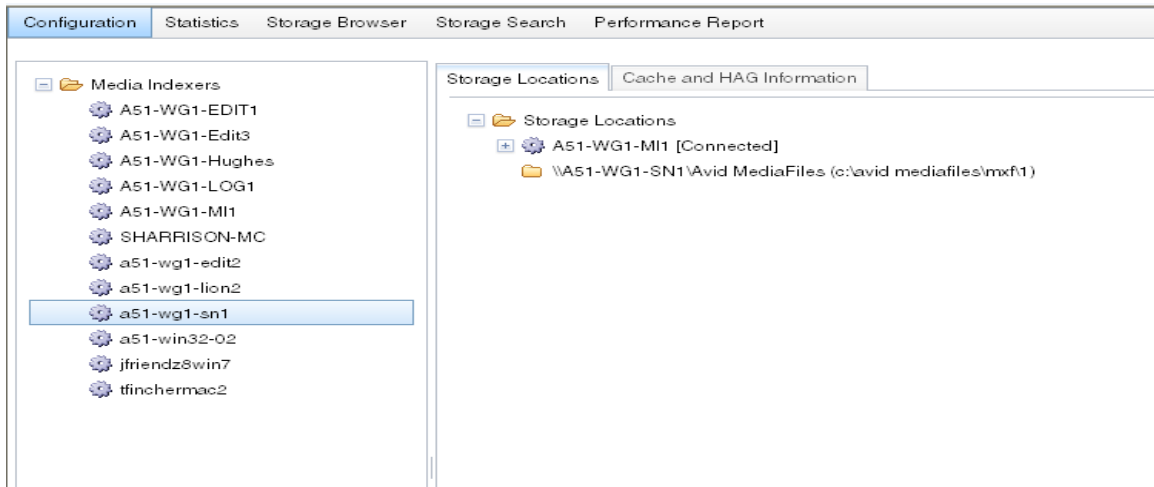
You can configure storage locations in the same way that you do for the Service Configuration tool. The following illustration shows the configuration buttons and text fields.
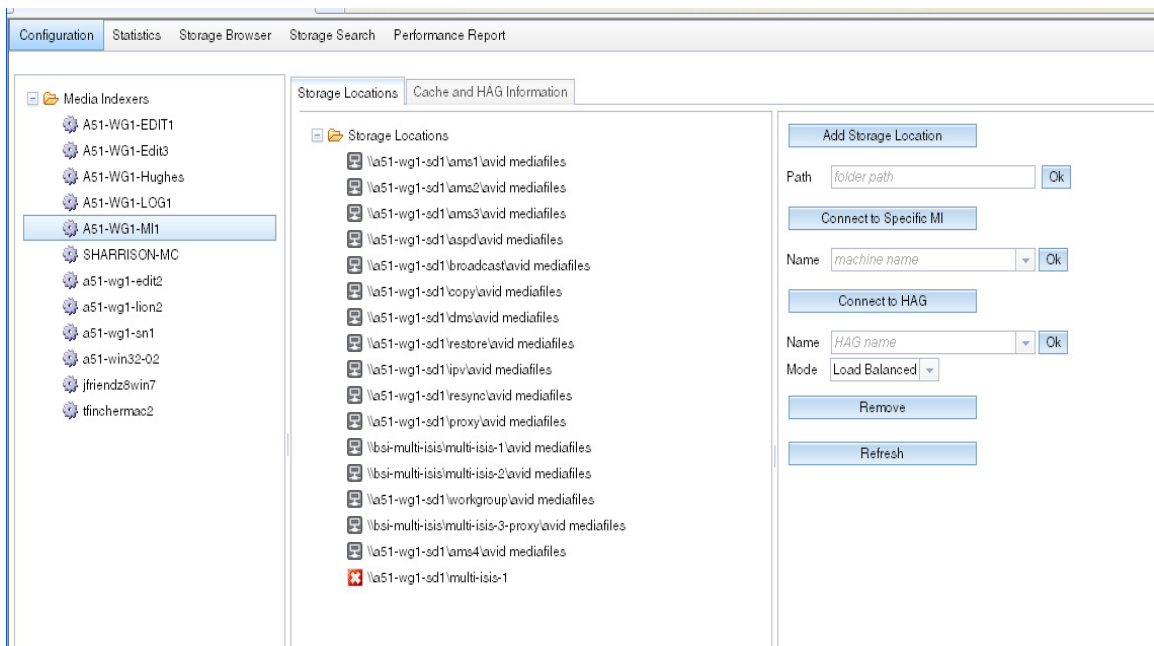
Note that you can add a storage location before it is available online. MI will check whether its available at the next resync. Or once the storage location is available you can select the folder in the Storage Browser and select Rescan or Reindex.

Updating the MI Cache and Configuring the HAG

Use the "Cache and HAG Information" tab to update the MI cache and configure the Media Indexer HAG (High Availability Group). This works the same as the Service Configuration tool.
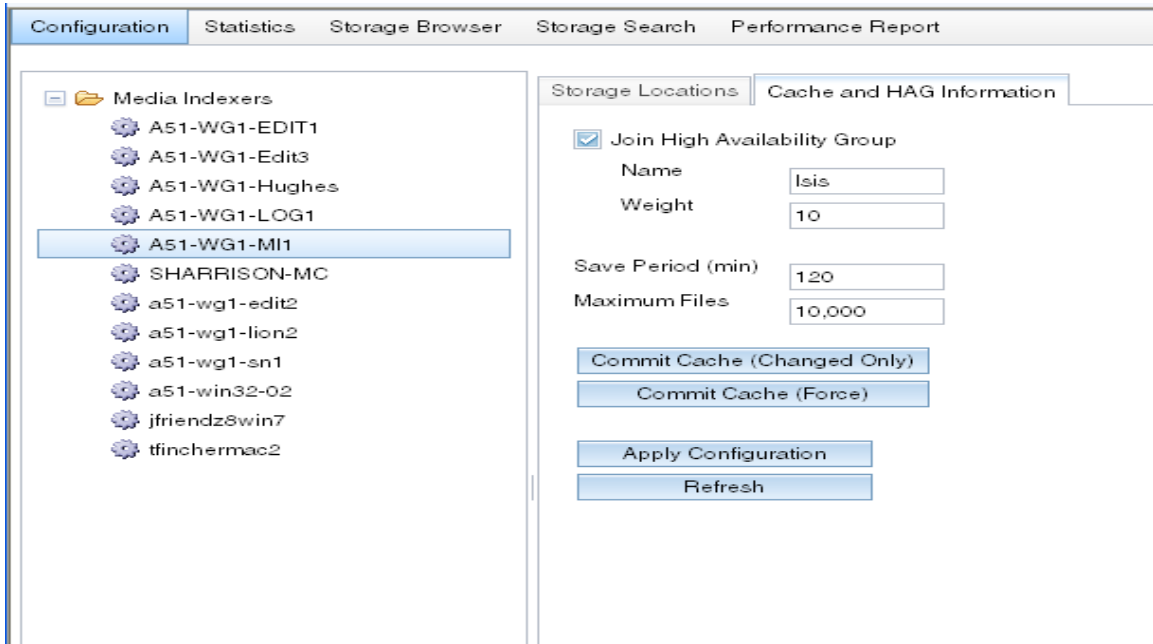
Statistics Section

The Statistics section presents the information that is sent to the Service Framework Health Monitor. You can leave sections open and move sections around on the window. Your browser retains the arrangement the next time you open the window. The following illustration shows a portion of the Statistics section.

Storage Browser and Storage Search

The Storage Browser allows you to browse the storage locations and examine the media files that are being indexed. Click on a folder to view details about the media files. The following illustration shows the contents of a selected folder in the Storage Browser.

The Storage Browser does not update dynamically. Do one of the following to update the display:

- If a storage location is added after you open the page, press the Refresh button to show the new information.

- To see changes within an existing folder, select the folder again.

The Storage Browser displays a variety of information about a media file including the following:

- Full path to the file (Folder Path)

- Channel ID

- FilemobID, original FilemobID, and MasterMobID

- Clip size (in bytes)

- Creation time, start time, duration, and time last modified

You can right-click an item in the list to view detailed information about the object including codec, quality information, VCID, and timecode information.

Possible uses of the Storage Browser for troubleshooting include the following:

- When investigating dynamic relink and media offline issues, check for problems with the start time, duration, offset, and channel ID.

- When investigating media offline issues in the editor, perform a Reveal File in the editor application to determine the path to the MXF file, then check the Media Indexer Storage Browser to determine whether the Media Indexer can locate the file.

Reindex and Rescan Buttons

The Reindex and Rescan buttons at the top of the Storage Browser window allow you to perform a reindex or rescan of a particular workspace or folder. You can perform the operation on the top level folder (shallow) or all folders underneath (deep).

The following explains the difference between reindexing and rescanning a folder:

- **ReIndex**: MI deletes all indexing information for the files in that folder and then starts indexing the files again. This can create a time period in which no indexing information is available for files in that folder.

- **Rescan**: MI reindexes all of the files that have been changed or added since the last time MI indexed the folder. It also removes all files that are no longer available on the file system.

  A rescan is usually not needed because the MI will catch up with changes on the file system by notifications sent form ISIS. However, there are situations, such as network problems, where those notifications might get lost. In that case, a rescan will pick up missed changes.

  If a file shows as media offline and it reappears in the web interface after you perform a rescan, it is often a good indication that there may be problems with either your network connection or your connection to ISIS.

📖 *These are CPU intensive operations. MI responsiveness will decrease for the duration of the operation. The operation will run in the background (not visible from the web user interface).*

The following illustration shows an example with multiple workspaces. To rescan the entire workspace named ams3, select the workspace and choose Rescan > Deep. Note that you can also right-click the workspace and select Rescan > Deep.
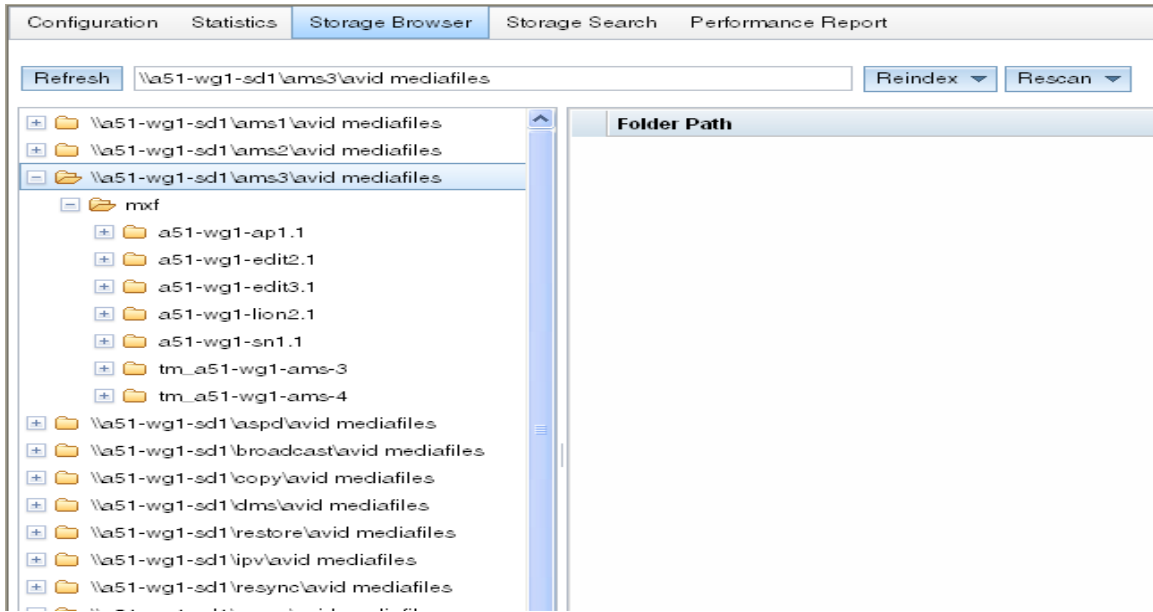
In the above example, Shallow would have no use since there are no individual files at the top level of the workspace. In the following example, to rescan the folder named a51-wg1-ap1.1, select the folder and choose either Shallow or Deep.
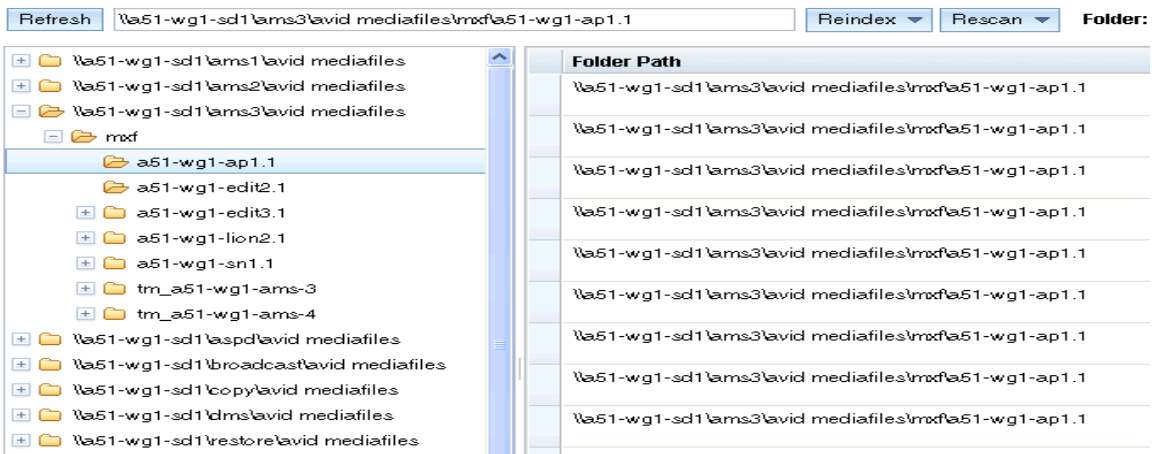
Since editor applications usually structure folders on ISIS without extra files at the top level, the Shallow option is rarely needed. It is provided in case an application uses a different folder layout.

Viewing the Scan or Reindex Progress

When performing a reindex or rescan you can view the progress on the Statistics window under Scanning Workers Thread Pool Statistics and Indexing Workers Thread Pool Statistics. The Current Queue Length value shows the number of folders or files that still need to be processed. Use the Refresh button to update the display. The following illustration shows the Scanning and Indexing sections of the Statistics window.

Storage Search Section

The Storage Search window allows you to search for the following:

- folder path

- file path (supply the full path to a file)

- File mob ID

- Channel ID

The following illustration shows the results of a search for a File mob ID.

Performance Monitor Section

The Performance Monitor tab provides access to Media Indexer specific performance reports based on JAMon. JAMon stands for Java Application Monitor. It allows developers to monitor applications such as Media Indexer. This page is intended for Customer Support to help investigate problems occurring on a Media Indexer system.

JAMon allows you to view data on the web page and to export the data using various formats. For additional information on JAMon, see the following web page:

http://jamonapi.sourceforge.net/

Note that the JAMon monitoring is on by default, The performance effect is very low because the application only collects statistical data.

Managing Media Indexers in an Interplay Environment

This section covers the following topics:

Improving Media Indexer Performance by Limiting the File Count in Media File Folders

Avid strongly recommends that you keep no more than 5,000 files in an ISIS folder that is being indexed by a Media Indexer. The number of files per folder affects the speed at which the MI can traverse the folder. MI must traverse a folder when one of the following occurs:

• When the MI starts up and must rescan the folders

• When the MI starts up with an empty cache

• During a daily resync

• When you delete, move, or rename a file or folder

If you have more than 5,000 files in a folder you can use one of the following techniques to redistribute the files:

• Use the Media Services Move Provider to move the media files associated with master clips

• Move the files manually as described in the following procedure

To manually move media files to a different media files folder:

1. Identify the folder that contains too many files and determine which shared storage workspace it resides on.

2. Open the Avid Service Framework Service Configuration tool and remove the workspace from the Media Indexer storage configuration.

3. Create a new folder on the same shared storage workspace and move enough media files to get the file count down below 5,000 files. For example, sort by creation date and move all the files created after a certain date to the new folder.

4. Open the Service Configuration tool and add the workspace back into the Media Indexer storage configuration.

   The files will still be online in the Avid editing application but they will be offline in Access.

To bring the files back online in Access, do one of the following:

▶ In Access, select all the files that you moved, right-click the selection, and choose Update Status from Media Indexer. For example, search by creation date, select all the files, and then perform the Update Status from Media Indexer.

▶ Load the files into the Avid editing application monitor and then check the files back into the Interplay database.

Limiting the Number of Files Captured by the Editor or by Interplay

Starting at Media Composer v5.0.3 (and NewsCutter v9.0.3 and Symphony v5.0.3), The Avid editing applications keep track of the number of media files in a folder and automatically create a new folder when the total exceeds 5,000 files. This includes files created via the editor's Capture command as well as files created from other methods in the editing application such as rendering and consolidating. The new folder has a .x extension such as *FolderName.2*. For earlier versions of the editing applications you need to keep track of the number of media files in a folder. For performance reasons you should split up the files in the folders after they reach 5,000 files as described in this section.

In general, you should create a workflow that avoids capturing too many files to a single folder. If you know that you will have recurring ingests, you should manage the folders for those ingests. For example, you could name folders for the days of the week or for specific types of ingest. Then you could regularly empty those folders as part of your delete workflow. For additional information, see the chapter on Delete Guidelines in the *Interplay Best Practices Guide*.

Media Indexer Restart Behavior

Starting with MI v2.2.3, you have the following options when you restart a Media Indexer that has existing cache files:

- REINDEX_CHANGED: This is the default option. The MI indexes media files that have been added or changed within the last two hours since the cache was last saved. The amount of time is configurable. The MI does not reindex all known files to validate the cache.

- REINDEX_ALWAYS: This is identical to the default behavior of previous releases as follow:

  - Index any media files added to the storage locations since the cache was last saved.

  - Reindex all known files to validate the cache information.

- REINDEX_CHANGED_LOCAL: Reindex new or changed files on local storages and reindex all known files on shared storage locations.

- REINDEX_CHANGED_SHARED - Reindex new or changed media files on shared storage locations and reindex all media files on local storage locations

- REINDEX_NEVER: Do not check if any media files have been added or changed since the cache was written and do not validate the cache. This gives the fastest performance at startup but should only be used temporarily on the recommendation of Avid support.

You can set these options in the jini.config file located at the following location:

\Program Files\Avid\AvidMI\state\config\jini\jini.config

The following shows the relevant portion of the file:

```
// Tolerance on reindexing of known files
// Media files modified up to this specified time, before the last time
// the MI cache was saved will NOT need to be re-validated.
// (depends on reindexingMode)
static timeStampOptimizationErrorMargin = new Long( 7200000 ); //2 hours

// Used to set reindexing mode for known files
// Reindexing of changed files adjusted by
// timeStampOptimizationErrorMargin parameter
// Possible values:
// REINDEX_ALWAYS - Always reindex known files
// REINDEX_NEVER - Never reindex known files
// REINDEX_CHANGED - Reindex known files on all storages if they were
// changed
// REINDEX_CHANGED_LOCAL  - Reindex known files on local storages
// if they were changed and all known files on shared storages
// REINDEX_CHANGED_SHARED - Reindex known files on shared storages if
// they were changed and all known files on local storages
// Default value: REINDEX_CHANGED
static reindexingMode = ReindexingMode.REINDEX_CHANGED;
```

The time range value is in milliseconds and is set to 2 hours by default. After you edit and save the file, use the Workgroup Properties tool to restart the Media Indexer service.

Ignoring Global Delete Notifications

This feature allows you to defer discovery of deleted files until the daily Resync. You can set the option on a global basis or on a workspace-only basis.

📧 *This option should only be used as a temporary solution as described below.*

This feature can be useful if you find it necessary to perform a large deletion of media files during production time. For example, if there is an immediate need to free up disk space. Avid recommends that you perform large deletions during off hours because it can slow down the Interplay Engine and Media Indexer. However, if you find it necessary you can use this option. See also "Scheduling Large File Deletions" on page 255.

Ignoring delete notifications will NOT affect how the files are actually removed from shared storage. The only thing that is affected is how Media Indexer will update its internal cache according to that delete. Normally the Media Indexer receives notifications of each deletion and must resync the information with it's internal cache. This can affect performance during a busy production time. The full resync will rescan the file system to reflect any changes found in the Media Indexer cache. The default full resync time is at 1:00 AM. See "Changing the Media Indexer Full Resync Time" on page 255.

> *The global setting is persistent (remembered after a restart), the workspace specific one not persistent.*

To ignore delete notifications on a global basis:

1. Open the Service Configuration Window and select the Media Indexer monitoring shared storage.

2. Click the Ignore delete notifications check box and click Apply.

   The following illustration shows the global option.
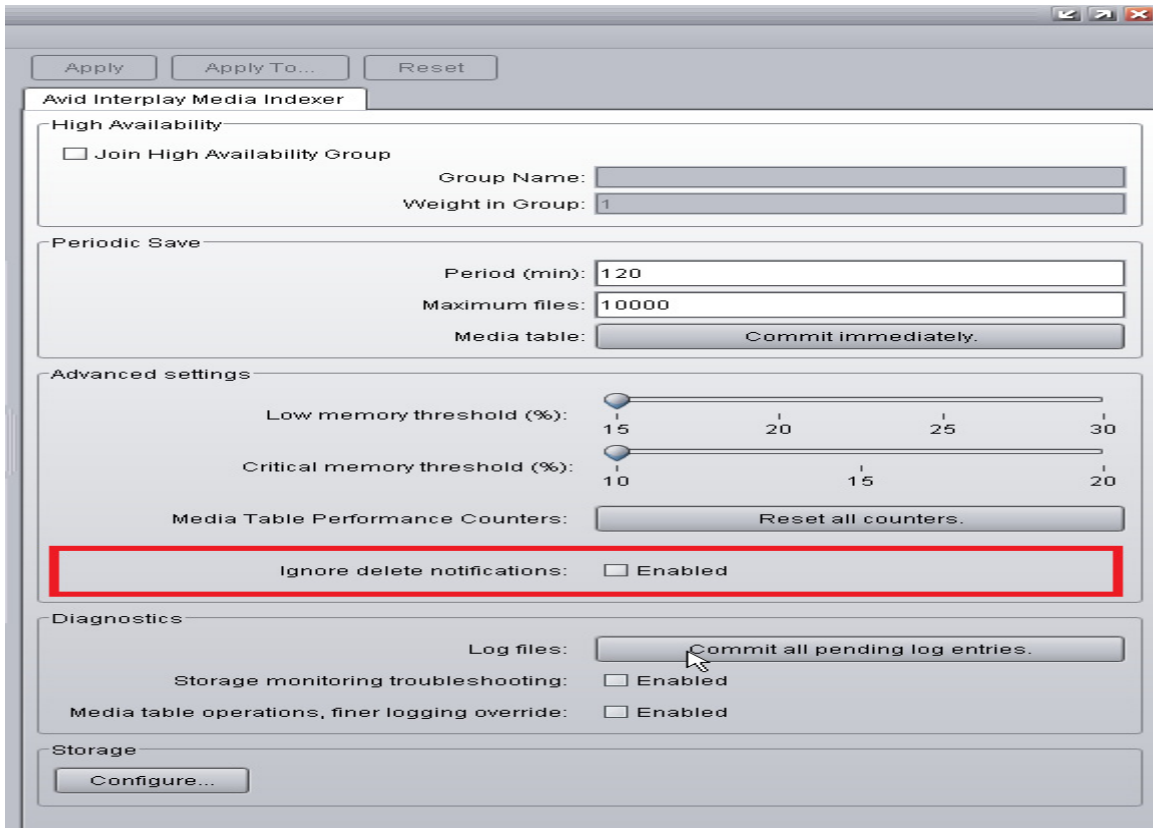
To ignore delete notifications for a specific workspace:

1. Open the Service Configuration Window and select the Media Indexer monitoring shared storage.

2. Click Configure to open the Configure Storage window.

3. Select a configured workspace and click the Change button.

4. Click the "Ignore delete notifications" check box.

5. Click OK to confirm your changes.

Scheduling Large File Deletions

The "ignore delete notifications" feature should only be used after careful discussion of how this will affect your workflow. While it is true that the option will improve Media Indexer performance during a large delete operation, there are other problems with performing a large delete during production time:

- A large delete will slow down the Interplay Engine and can affect check-in and check-out performance.

- If you delete media files and do not delete the associated clips from the editing applications the Media Indexer will incorrectly show the files as online until it performs its Full Resync operation.

Try to schedule the deletion of large numbers of files (for example, over 300 GB) during off hours. A large delete operation can slow down the response time on the Avid Interplay Engine. This also slows down the response times on Avid editing applications that are working with the Interplay Window.

When you delete a media file from within Interplay Access, the operation initiates a number of communications between Interplay Access, the Media Indexer, and the Avid Unity System Director. The communications occur for each media file that you delete. This is one of the reasons why Avid recommends that you schedule large deletions for a time when the Interplay environment is not being heavily used.

For best performance, try not to delete more than 2,000 assets at the same time. If you have more than 2,000 assets to delete, perform the deletion in increments of 2,000 or less.

Changing the Media Indexer Full Resync Time

The full Resync time is configurable. By default it is once a day at 1:00 AM.

To change the full resync time:

1. Edit the following file:

   \Program Files\Avid\AvidMI\state\config\jini\jini.config

2. Change the resync time. The following shows the relevant portion of the file:

   ```
   // Default time for workspaces with scheduled time resync policy
   static scheduledResyncTime = "01:00:00 AM";
   ```

3. Save your changes and restart the Media Indexer service in the Workgroup Properties tool.

Changing the Resync Interval for a Media Indexer

Depending on your version of Interplay and ISIS, you may be able to improve Media Indexer performance by increasing the resync interval. This is referred to as a relaxed scan interval. The default resync intervals are referred to as aggressive scan intervals. Use the following guidelines to determine whether you should change the resync interval.

- Any Interplay MI version that is connected to ISIS version lower than 1.7 requires aggressive rescan, so no change is required.

- Interplay MI 2.x running on ISIS v2.0.3 and higher does not require aggressive rescan. MI v2.x automatically adjust its interval in this case, so no change is required.

- The following Interplay versions require manual intervention to REMOVE aggressive rescan and set the values to the relaxed values:

    - Interplay MI 1.x or MI 2.x connected to ISIS version 1.7 up to and including 1.9.

    - Interplay MI 1.x connected to ISIS version 2.0.3 and later.

⚠ **If you increase the resync intervals when connected to an ISIS version lower than 1.7 and 2.0.3, there is an increased risk of encountering Media Offline issues.**

To change the resync interval for a Media Indexer

1. Navigate to the following folder on the Media Indexer system:

   \Program Files\Avid\AvidMI\state\config\jini\

2. Make a copy of the jini.config so you have preserved the original state.

3. Open file jini.config with an application such as Notepad.

4. Scroll through the file and locate the section called "com.avid.ummd.monitor."

5. Change the values to the desired scan type as shown in the following table:

Value Name	Aggressive Scan (Default)	Relaxed Scan Values
partialResyncDelay	10000 (10sec)	60000(1min)
fullResyncMinDelay	300000 (5min)	10800000 (3h)
fullResyncMaxDelay	900000 (15min)	18000000 (5h)

The following list shows the completed values for a relaxed scan:

static partialResyncDelay = new Long(60000);
static fullResyncMinDelay = new Long(10800000);
static fullResyncMaxDelay = new Long(18000000);

6. Save the file.

Import and Export Configuration Files

The Configuration Storage dialog box has Import Config and Export Config buttons that allow you to import and export the configuration of a Media Indexer as a simple text file. For example, if you are replacing a Media Indexer system, you can export the configuration and then import it to the new system. This also allows you to backup your configurations.

The following illustration shows the Import and Export buttons.
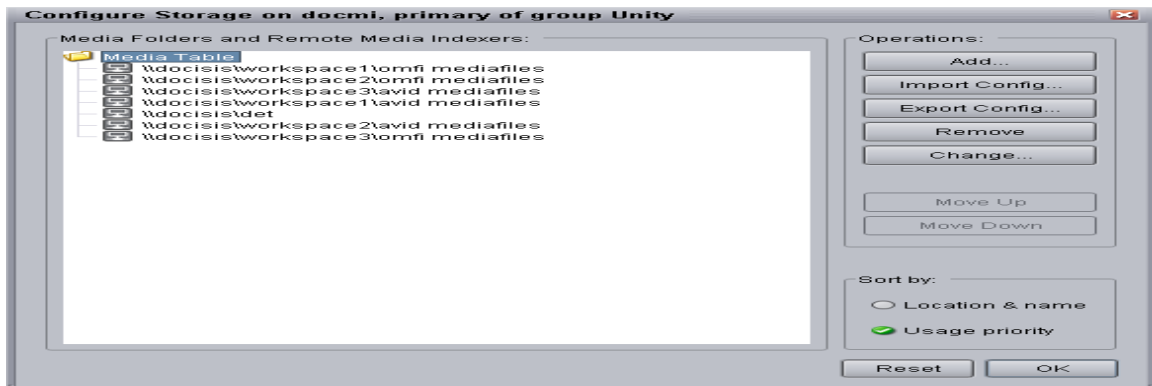
When you click Export Config button, the system opens a dialog box that allows you to specify the location for the configuration file. The default storage location is the Documents and Settings folder for the Windows user that is currently logged in.

Troubleshooting Media Indexer

This section describes what to do if you have captured new media and it is not coming online. It usually means that the Media Indexer does not see the media; there are several things to check.

Before you begin troubleshooting, verify the following:

• Shared storage volumes (ISIS workspaces) are mounted and the user that mounted the workspace has Read/Write privileges.

• On Avid ISIS, Media Indexers that monitor shared storage must use letterless drive mapping. In general other Interplay clients, such as Avid editing applications, must use Lettered drive mappings. Media Indexers in the High Availability Group. For more information on mounting drives, see the Avid ISIS Client Manager Help.

• The editing application is logged in to the Interplay Engine with a user that has sufficient privileges.

- The Windows firewall is disabled.

- It is possible to ping the machine that runs the shared storage Media Indexer by IP address and by name from the editing system and vice versa.

- The Service Framework is up and running so you can see the Media Indexer service in the Interplay Service Configuration tool for all machines that have the service installed.

Remote Mode Button

Local Media Indexers have a Remote Mode button that allows you to disconnect from the HAG. On the Service Configuration tool, the Remote Mode button is in the Configure Storages window. On the Web user interface the button is on the Configuration tab. When you click the Remote Mode button it expands as shown in the following illustration.
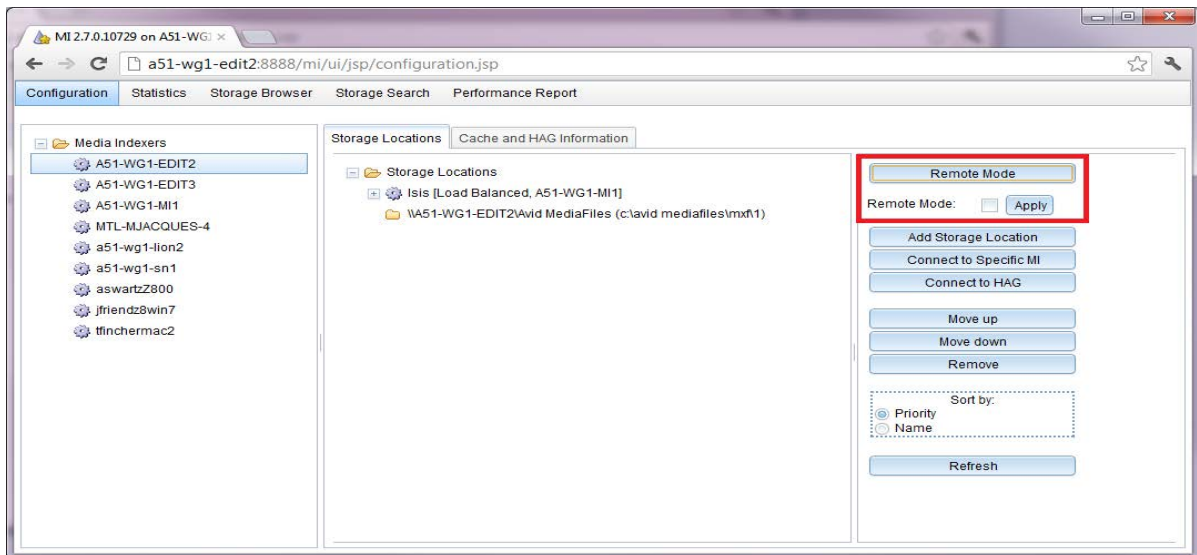
⚠ **Do not use the Remote Mode button. It is intended for a future release and has not been qualified.**

Media Indexer Diagnostics

The Media Indexer supplies additional information to the Service Framework Diagnostics tool.

The following illustration shows the Diagnostics window showing Logger name information for the Media Indexer process on the system named DocMI.
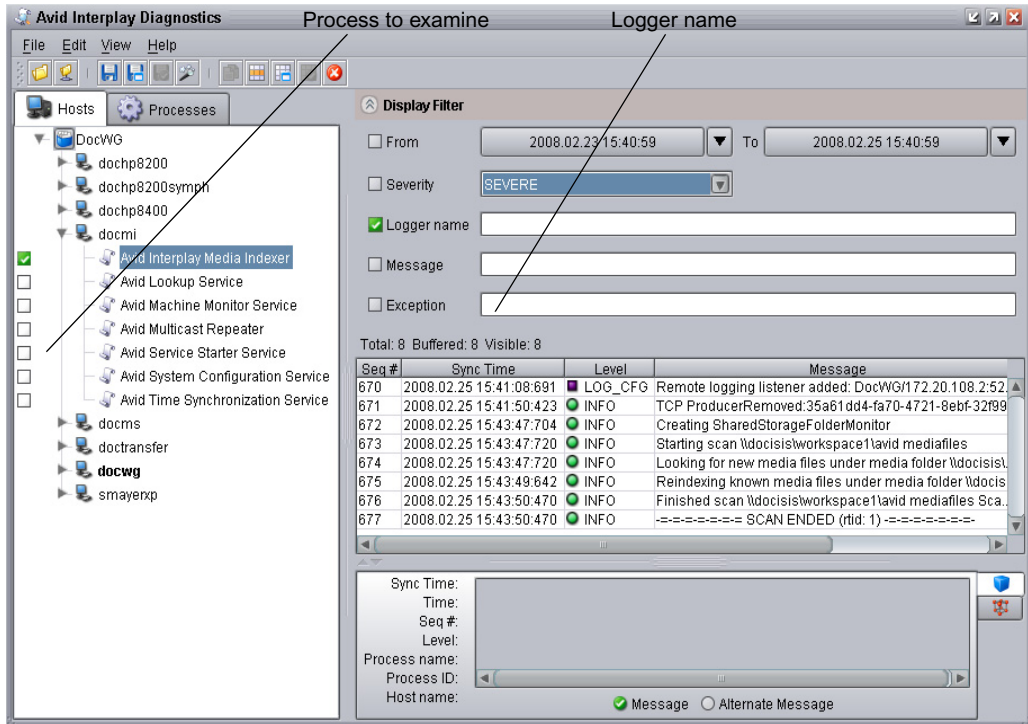
You can filter on the following values to obtain diagnostics information.

• Filter on the logger name "com.avid.ummd" to filter all messages issued by the Media Indexer. For example, this can provide additional information about quarantined files.

• Filter on logger name "com.avid.workgroup" to filter messages issued by the Service Framework. For example, this can provide information regarding Media Indexer election issues.

• Filter on logger name "UMMDTableCacheLoader" to determine problems with loading the cache file.

• Filter on "INDEXING ERROR" to view indexing errors as they happen.

• Filter on "Quarantined file" to view information on bad media files as they are quarantined. Note that if you see a lot of Quarantined file messages about OMFI media files, it can be a sign of the presence of legacy OMF files, or still unsupported OMF precompute media files.

• Filter on the Message "Commit" to see when the Media indexer saved the cache.

Resolving Memory Threshold Problems

If your Media Indexer reaches the critical memory threshold, an Interplay system administrator can use the following techniques to resolve the problem:

• Delete unnecessary files from the folders monitored by that Media Indexer.

• Archive files and delete online versions of media files.

• Use the Interplay Service Configuration tool to remove workspaces or folders from the Media Indexer's Media table.

• If practical, index specific folders within a workspace.

• Replace 32-Bit Media Indexers with more powerful 64-bit Media Indexers.

MI Logging Capability

A new audit trail was added in Media Indexer v2.1.2 for troubleshooting file system operations. This logging mechanism allows you to collect all MI events that could affect file count. It uses a different logger name than the default Java logger so that it can be configured separately.

To enable and configure the new logging capability:

1. Open the following file in an application such as Notepad:

   .\ AvidMI\state\config\logging.properties

2. Locate the following line:

   #com.avid.workgroup.diagnostics.logging.AvidFileHandler.count = 100

3. Remove the # sign to uncomment the line, and change the value to 500 as follows:

   com.avid.workgroup.diagnostics.logging.AvidFileHandler.count = 500

4. Add the following line after the modified line:

   com.avid.ummd.util.AuditTrail.level = FINE

5. Save the file and restart the Media Indexer.

   This enables the new audit trail mechanism to track file system operations. This level of logging can be increased to FINER or FINEST if more detailed information is required.

⚠ **Only use the audit trail for troubleshooting. The feature uses Media Indexer resources and can affect system performance. After you finish troubleshooting, comment out the modified lines and restart the Media Indexer. For example:**

#com.avid.workgroup.diagnostics.logging.AvidFileHandler.count = 500
#com.avid.ummd.util.AuditTrail.level = FINE

Additional Logging Capabilities

Media Indexer v2.2.3 introduced an improved logging capability that collects information on notifications from shared storage. The information is stored in the following log file:

\AvidMI\state\config\storage-notifications-*x*.alf

where *x* is the index of the file.

By default, the Media Indexer logs warnings in the file when folders are found with more than 5,500 (warning) and 10,000 (severe warning) files.

In addition, the number of log files saved and the file size limit for each log file are configurable.

To modify the number of saved log files and the size of saved log files:

1. Open the following file in an application such as Notepad:

   .\ AvidMI\state\config\logging.properties

2. Locate the following lines:

   ```
   # the size limit for each log file in bytes.
   # Default value is 2 * 1024 * 1024 = 2097152 = 2 MB
   com.avid.ummd.util.StorageNotificationsHandler.limit = 2097152
   # the log files count. Default value is 10
   com.avid.ummd.util.StorageNotificationsHandler.count = 10
   ```

3. Modify either the limit (file size) or count (number of log files) value as necessary.

4. Save the file and restart the Media Indexer.

   For additional information on using the logging properties file, see the *Interplay Best Practices Guide*.

Media Indexer, Interplay Assist, and Avid Instinct

When Media Indexers in the HAG are not running or are not communicating with clients, Assist and Instinct clients report all media offline. This happens because the Assist and Instinct do not have local Media Indexers and rely on the Media Indexer defined in Interplay Administrator Server Hostname view.

In contrast, Avid editing applications such as Avid Media Composer and Avid NewsCutter Adrenaline use local Media Indexers. They only rely on the shared storage Media Indexer to locate media. Once the media is located, the local Media Indexer can find the media even if the shared storage Media Indexer stops running. In this case the editing applications can continue to work with already-located media but they will not be able to find new media on shared storage until the Media Indexer in the HAG is responding.

Checking Media Indexer Status

This section lists different things to check to determine the status of the Media Indexer application.

• Verify that Media Indexer is running.

• Check whether the Media Indexer has recently restarted. If the Media Indexer recently restarted and there are many media files, it might take time for all of them to come online.

• Verify that the Media Indexer is monitoring the correct shared storage.

• Check the Quarantined folder. If Media Indexer has trouble reading a file, it attempts to move the file into a Quarantined Files folder.

To verify that the Media Indexer is running:

1. Click the Start button, and then select Programs > Avid > Workgroup Framework > Avid Workgroup Properties.

2. Check to see if the Media Indexer service is running on the Media Indexer system that monitors shared storage.

To verify that the Media Indexer monitoring shared storage has the correct mapping:

1. Start the Avid Interplay Service Configuration utility.

2. Open the client that has this Media Indexer running on it.

3. Select the Avid Interplay Media Indexer.

4. Verify that "Join High Availability Group" is selected.

Media Indexers on Avid editing systems should not should have this option selected.

5. Click the Configure button.

6. Verify the UNC paths for the workspaces are displayed. Add them if they are not displayed.

To check whether the files you are looking for are in a Quarantined folder:

1. Determine who (client, hostname) created the media and which workspace it resides on.

2. Using Windows Explorer, open the Avid MediaFiles\MXF directory that has the hostname of the client who created the media.

3. Look in the Quarantined folder to see if the media files were moved there.

If The Media Indexer Service Does Not Appear on the Client

If you cannot see the client's Media Indexer in the Avid Interplay Service Configuration utility:

▶ To determine if there is a network problem, go to the client system and try pinging the system that has the Media Indexer monitoring shared storage.

▶ Open the Avid Workgroup Properties utility and verify that the Workgroup name is correct. The workgroup name is case sensitive. If necessary, change the name in the Workgroup Properties window.

▶ Determine if the client is within the same subnet as the Media Indexer monitoring shared storage. If it is not, you must configure a Multicast Repeater.

For information on Multicast repeaters, see *Avid Interplay Software Installation and Configuration*.

📖 *After installing and configuring a multi-cast repeater, stop all Avid services (Workgroup framework and Media Indexer) before you configure the lookup-service tab in the Avid Properties Management utility.*

Shutting Down the Media Indexer

Do not shut down the Media Indexer while it is scanning files. If you do, the Media Indexer might have to rebuild its cache when it starts up again. This can take a long time on a large system.

To use the Health Monitor to determine whether the Media Indexer is scanning files:

1. Launch the Health Monitor and navigate to the system that is running the Media Indexer that you want to shut down.

2. Click Avid Interplay Media Indexer.

3. Open the Avid Interplay Media Indexer pane.

4. Check the value of the "Pending Files (scan)" field.

   If the Media Indexer is not scanning files, it is safe to shut it down. To shut down the service, use the Avid Workgroup Properties tool.

Media Indexer Health Monitor Options

This section describes the options available in the Health Monitor. These options are added for Interplay v1.2.3.

Terminology

The following terms are used in this section:

- ummdworker - A Media Indexer process (ummdworker.exe). Two processes run per CPU on each system running a Media Indexer, so each machine running the Media Indexer software has two ummdworkers processes. If the system has two CPUs, there are four ummdworker processes.

- HAG - The High Availability Group (HAG) makes up the group of Media Indexers monitoring shared storage. The primary Media Indexer is the leader of the group. You configure this Media Indexer to monitor the shared storage locations. Other Media Indexers in the HAG join the group and mirror the storage locations. When a Media Indexer on an Avid editing system requests information on a media file, the request is automatically routed to one of the HAG members. Adding more HAG members increases the number of clients that can work with the HAG. For details on the number of clients that are supported, see the Avid Interplay ReadMe for your release.

- Cache files - There are two types of Media Indexer cache files. The channel*.cache files contain the media clip metadata. The ummds.cache files contain the connections to other Media Indexers and to shared and local storage locations.The cache files are stored in the following directory:

  C:\Program Files\Avid\AvidMI\state

See the following topics:

Media Indexing Workers Thread Pool

The following illustration shows the Media Indexing Workers Thread Pool window.
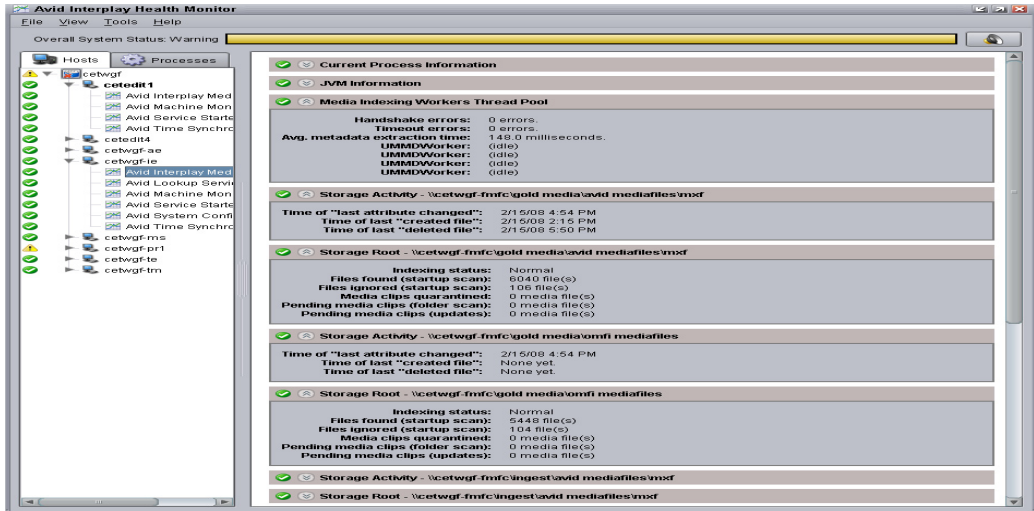
The following table describes the values.

Option	Description
Handshake errors	Counts number of handshaking errors between the Media Indexer process and the ummdworkers.
Timeout errors	Number of times a ummdworker process failed to return the metadata information to the Media Indexer. This value can be a good indication of corrupted media files. If the number is rising over time, check the log files over the last 24 hours for Quarantine or Indexing error messages.
Avg. metadata extraction time	Average time it takes the Media Indexer to retrieve metadata from the file.
ummdworker	One-to-one relation with a ummdworker process (ummdworker.exe). Each entry indicates a media file being indexed and the time the indexing request was received.

Storage Activity, Storage Resync Status, and Storage Root

There is a Storage Activity, Storage Resync Status, and a Storage Root window for each shared storage location that the Media Indexer is monitoring. Storage locations can be folders on shared storage for Media Indexers in the HAG, or local storage areas for a Media Indexer running on an Avid editing application. The following illustration shows the three windows for one storage location.

The following table describes the values.

Option	Description
Storage Activity	Shows the time when the last "file created" or "file deleted" notifications from the file system were received by the Media Indexer. This information is useful for debugging media offline problems. It lets you know whether the Media Indexer received the notification. For example, when a file is ingested or deleted, the corresponding entry should show the time. If it does not, there might be a problem with file notifications between the Media Indexer and Avid shared storage file system.
Storage Resync Status	Shows the resync status of this particular shared storage folder or workspace. Displays the following information: • Delay time between resyncs. • Time of last resync and time of next resync. • The number of files and folders added, updated, or removed since the last full resync. • The number of files and folders added, updated, or removed for all resyncs since the Media Indexer was last started. There are two kinds of resync operations that Media Indexer performs: • A full resync to check the location and online status of all media files in the Media Indexer database. The Storage Resync Status shows this information. • Partial resyncs to check for new files or files that have changed or have been deleted. These resyncs occur automatically and allow the Media Indexer to stay up to date with the file system in between full resyncs. 📄 *The Storage Resync windows are only available on Media Indexers that are monitoring shared storage.*
Storage Root	Shows indexing information for a given storage location. This allows you to examine the Media Indexer performance on a specific workspace.The following values are displayed: • Indexing status • Files found (startup scan) • Files ignored (startup scan) • Media Clips quarantined - represents the number of media files quarantined since the Media Indexer process last restarted. • Pending media clips (folder scan) • Pending media clips (updates)

Media Table Statistics

The following illustration shows the Media Table Statistics window.
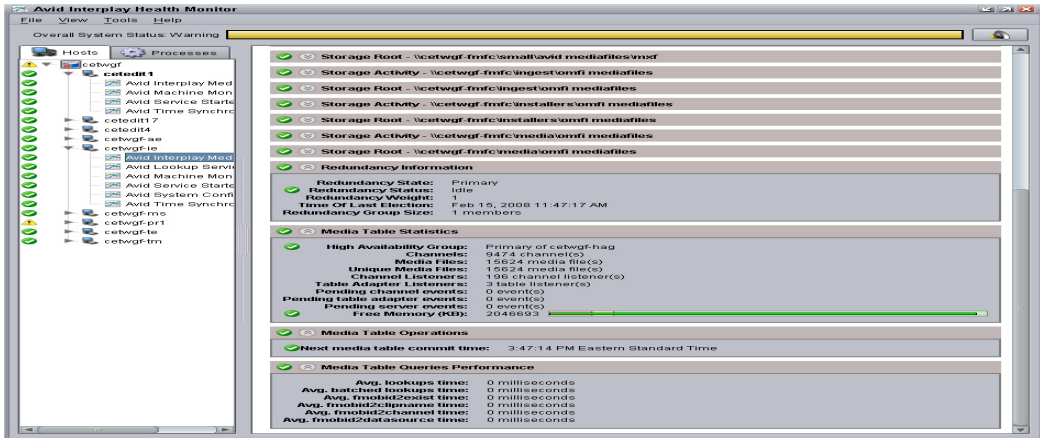
This window has not changed from versions prior to v1.2.3. The following table describes the values.

Value	Description
High Availability Group	Specifies whether the Media Indexer is a member of a High Availability Group and if so, identifies the Media Indexer's position in the group. The member with the highest priority value is the leader of the group. You set the priority in the Service Configuration tool.
Channels	The number of sources that the media files are related to. This refers to items like source tapes, file reels, and imported files.
Media files	The total number of media files monitored by the Media Indexer. This number includes any copies of media files. For a breakdown by storage locations, see the Storage Root windows.
Unique Media files	The number of unique media files monitored by the Media Indexer. This number might be smaller than the actual number of media files because any copies of media files are not counted in this total.
Channel Listeners	The number of channels on which the Media Indexer could be sending notifications. There is one channel listener per source ID (source media track) used by each editor. For example, if an editor is working with a video track in the timeline that contains three clips from different sources, there are three corresponding channel listeners.

Value	Description
Table Adapter Listeners	The number of Media Indexer services that are connected to this Media Indexer This number should be close to the actual number of machines connected to the Media Indexer. If this number keeps growing and becomes greater than the number of clients by an order of magnitude, call Avid Technical Support and schedule a restart for the Media Indexer.
Pending channel events	Pending notification messages for new, removed, or updated media.
Pending table adapter events	Pending notifications between HAG members for media table configuration changes. These communications are sent from the primary Media Indexers to the backup Media Indexers in the HAG.
Pending server events	This option is reserved for future use.
Free memory	The amount of free memory available to this Media Indexer. Each Media Indexer has a certain amount of allocated memory. When the amount of free memory available for the Media Indexer goes below 10% of that amount, the Media Indexer stops indexing files. The Media Indexer still attempts to answer requests from the Avid editing applications, but it does not index any new files. By default, the color bar at the top of the Health Monitor window turns yellow when the free memory available to the Media Indexer goes below 15%. It turns red when the free memory goes below 10%. If you check the Avid Interplay Diagnostics tool at this point, you might see "Memory usage too high" messages. For information on adjusting the value, see *Avid Interplay Best Practices*.

Media Table Operations and Media Table Queries Performance

The following illustration shows these two windows.

The following table describes the values.

Option	Description
Media Table Operations	Next media table commit time - The next time that the system will save the Media Indexer cache file. You set the frequency of cache saves in the Service Configuration window. A Commit Immediately button in the Service Configuration window also allows you to save the cache file immediately.
	Setting the periodic save value too low can affect performance in a large Interplay environment. Set the save frequency in relation to the frequency with which you create new media. For example, if you are not frequently capturing, consolidating, or otherwise creating new media, you don't need to set a low value for periodic saves. During a save operations there is less CPU power available to handle client requests.
	The Save time is based on the Windows Setup time on the local computer.
Media Table Queries Performance	The average values are calculated over time and should generally be under one second. This is the average value since the Media Indexer was last restarted. The value is most relevant if the Media Indexer was recently restarted.

Checking Media Indexer Memory Usage

An individual Media Indexer is capable of indexing a specific number of files. The actual number of files depends on the memory used by the Media Indexer monitoring that particular portion of shared storage. You can use the Avid Health Monitor to track the amount of memory used by the Media Indexer and, if necessary, take steps to reduce the number of files that are being indexed or add additional Media Indexers.

See the Avid Interplay ReadMe for the current Media Indexer file count limitations.

To check the Media Indexer memory usage:

1. Click the Start button, and then select Programs > Avid > Workgroup Framework > Avid Health Monitor.

   The Health Monitor login window appears.

2. Log in and select the Avid Media Indexer service on the system running the Media Indexer.

Media Indexer Memory Usage

The number of files currently monitored by this Media Indexer.

3. Check the memory usage for the Media Indexer. (Also check the number of files that this Media Indexer is currently indexing. For the maximum supported number, see the *Avid Interplay ReadMe*.)

Each Media Indexer has a certain amount of allocated memory. When the amount of free memory available for the Media Indexer goes below 10% of that amount, the Media Indexer stops indexing files. The Media Indexer still attempts to answer requests from the Avid editing applications, but it does not index any new files.

By default, the color bar at the top of the Health Monitor window turns yellow when the free memory available to the Media Indexer goes below 15%. It turns red when the free memory goes below 10%. If you check the Avid Interplay Diagnostics tool at this point, you might see "Memory usage too high" messages.

To adjust when the color bar changes

1. Open the Avid Interplay Service Configuration tool and locate the system running the Media Indexer service.

2. Click the Avid Interplay Media Indexer service.

3. Use the sliders on the Avid Interplay Media Indexer panel to control when the bars change color.

The default settings are appropriate for most installations.

The following illustration shows the sliders in the Avid Interplay Service Configuration dialog box.
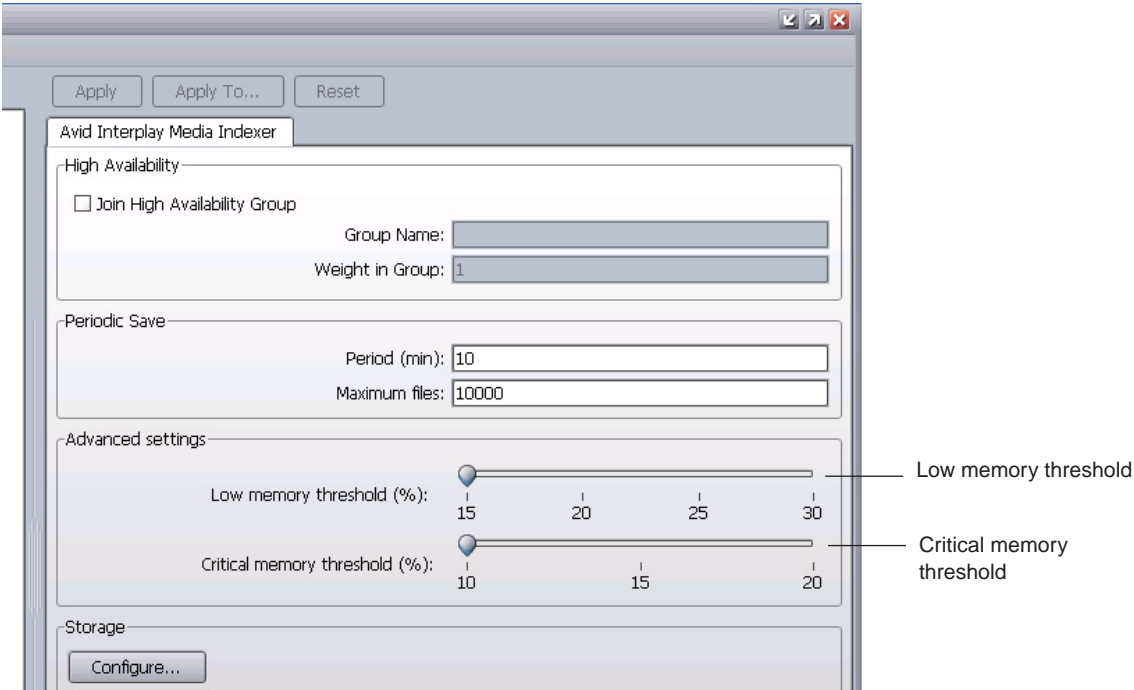
Adjust the sliders as follows:

-   Low memory threshold — controls when the color bar in the Health Monitor turns yellow

-   Critical memory threshold — controls when the color bar turns red

For example, if you want the bars to warn you before the free memory is 20%, you can change the Low memory threshold to 20%.

Suppressing Alerts in the Health Monitor

The Health Monitor is useful for monitoring the health of systems that are connected to the Service Framework. However, there can be times when a health alert for a relatively unimportant process obscures the general health of the Interplay environment. This can happen when you use the Disk Health Information feature to monitor the amount of free space for drives in the environment. For example, if one media drive is filling up, the "Overall system state warning" at the top of the Health Monitor window turns yellow. This can sometimes obscure other more important issues that are occurring in the Interplay environment.

The problem arises because you cannot adjust the threshold values for individual drives on a system. If you change the threshold values for one drive, the value applies to all drives physically connected to the system. This can be a problem because while you want to know if any system drives are running out of free space, you might be less concerned about whether media drives are filling up. The workaround is to turn off the alert for individual drives.

To turn off Health Monitor alerts for a particular drive:

1. Open the Health Monitor, select the system, and select the Avid Machine Monitor service.

2. Open the Disk Health Information window. The following illustration shows a system with two drives. One drive is filling up and it is causing the yellow warning bar to appear at the top of the Health Monitor.
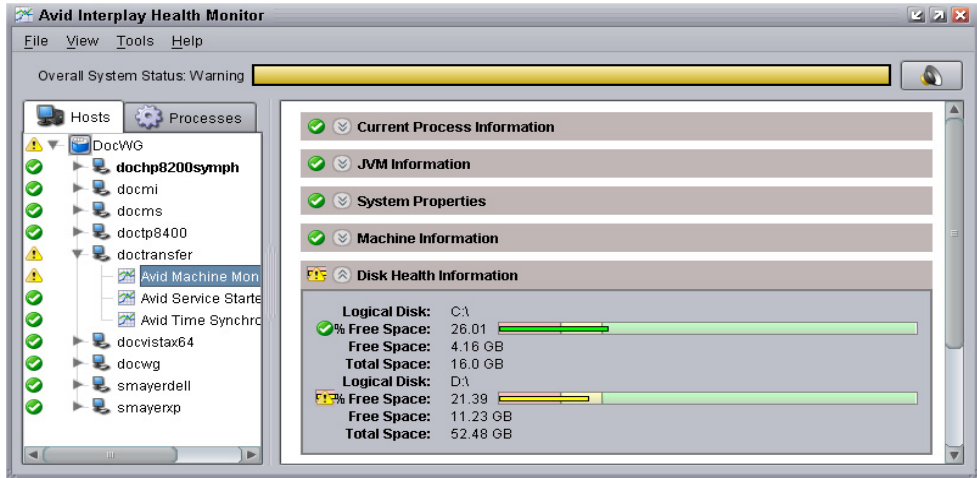
3. Right-click the % Free Space text on the drive that you don't want the alerts coming from and choose Suppress Health Alerts.

The following illustration shows the same system with the alert suppressed for the Disk Health Information for one drive. The drive displays as yellow in the Disk Health Information window but the overall system health shows as green.
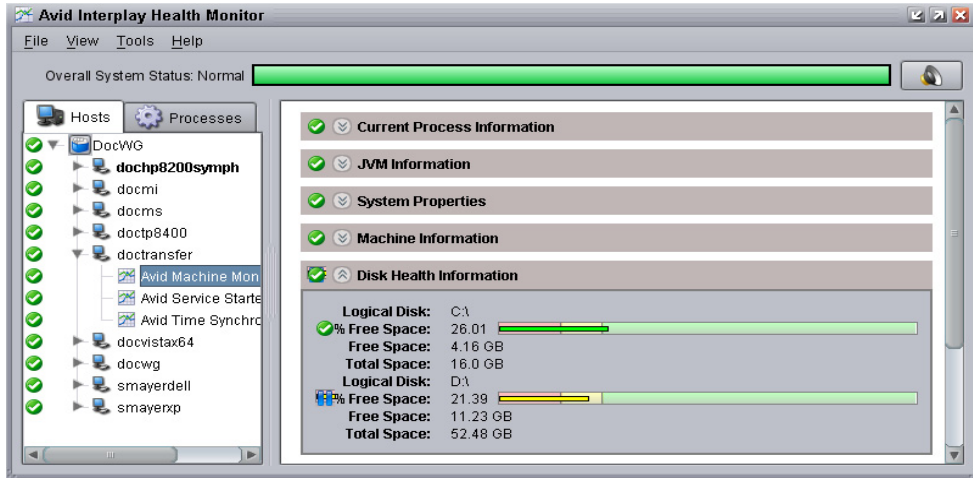
📖 *The alert suppression of the individual drive will not persist when the Machine Monitor is restarted or if the machine is rebooted.*

Media Indexer Health Monitor Changes

Media Indexer v2.4 introduced the following changes to the information displayed in the Media Indexer portion of the Avid Service Framework Health Monitor:

- A new window named Storages contains information on all the mounted workspaces so you can view information on all monitored workspaces in one window. See "New Storages Window" on page 276.

- Media Table information is now above the Storage Root sections in the Health Monitor. See "New Information for Monitored Workspaces" on page 277.

- Additional information about the workspaces have been added to the Storage Roots windows.

- A new Heartbeat monitor feature in the Storage Roots area allows you to monitor the network connectivity of the Media Indexer to each shared storage workspace. See "Heartbeat Information" on page 278.

- The Storage Roots windows are now listed in alphabetical order. The following illustration shows the new organization.
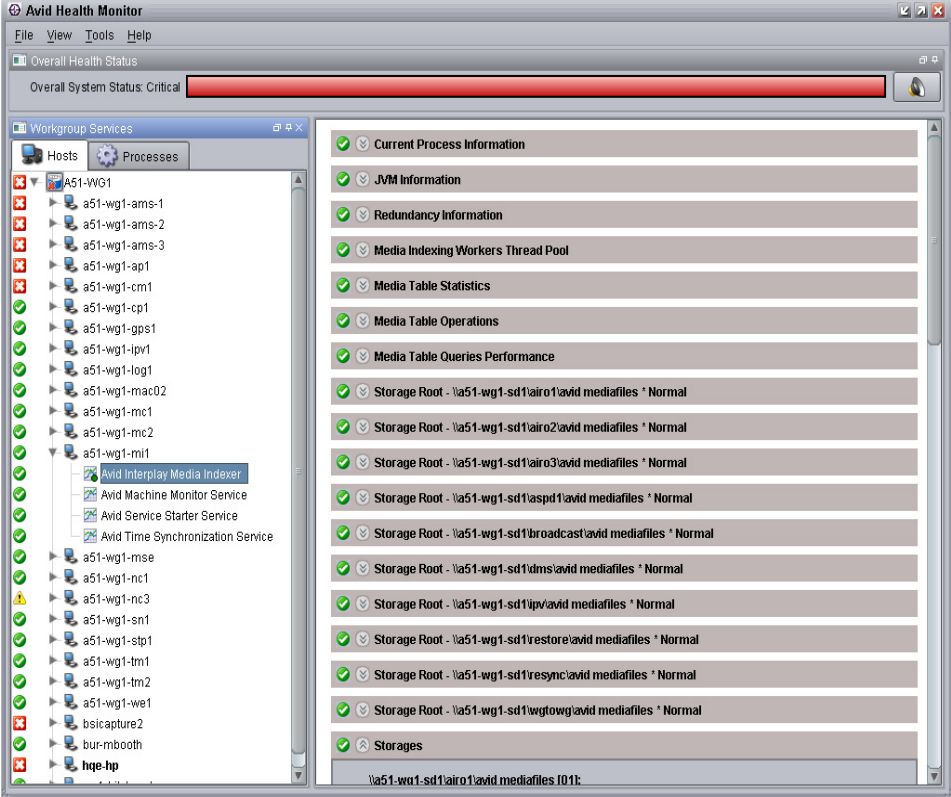
New Storages Window

Starting in Interplay v2.4, a new Storages window displays information from all the Storage Roots windows in one location. The following illustration shows an example of the Storages window.
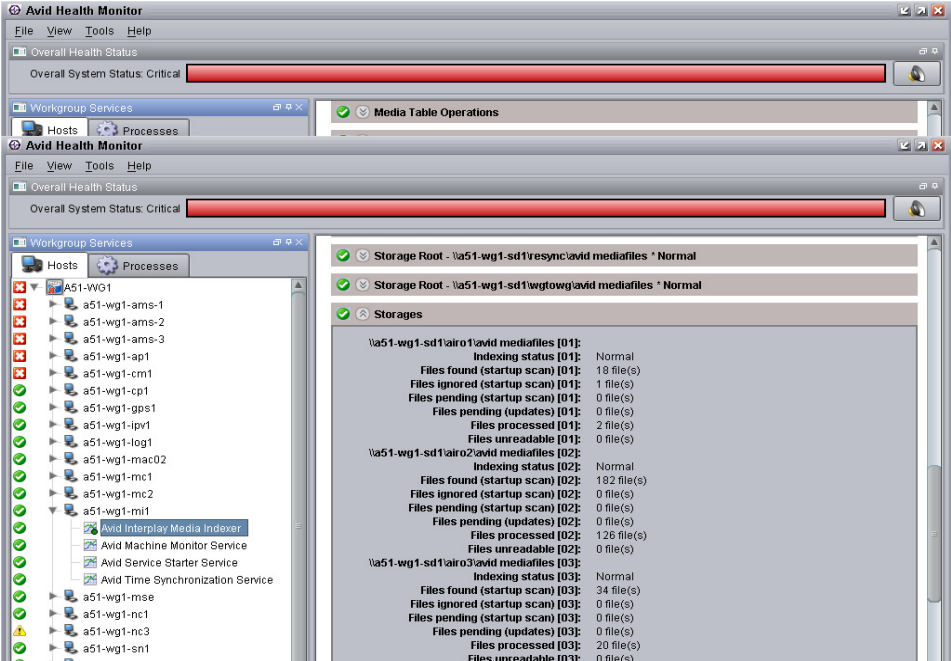
All items in each workspace list are suffixed with the integer value that is associated with that particular workspace. This is the RTID (real time ID) value displayed in the Storage Root window associated with that workspace.

New Information for Monitored Workspaces

Starting with Interplay v2.4, the Storage Roots windows displays additional information about each workspace as shown in the following illustration.
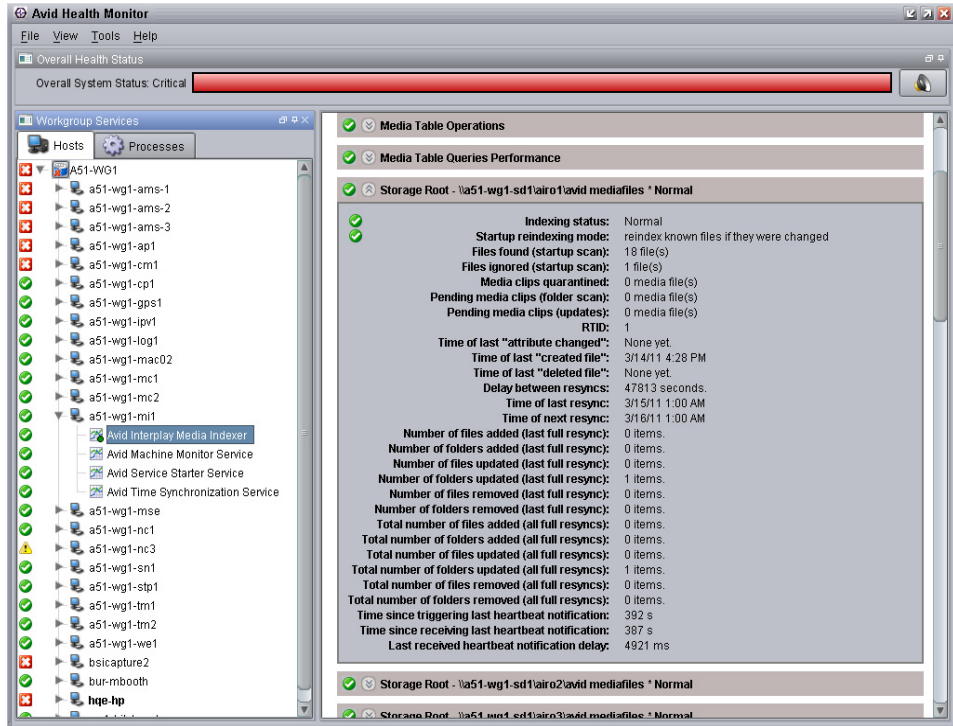
In addition to the new information about modified files and folders, the window also shows the "Startup reindexing mode" for the Media Indexer. The startup reindexing mode options allow you to postpone the complete reindexing of all the files when a Media Indexer starts up. This can help get a Media indexer up and running faster during production times. This feature was added in Interplay v2.3. For additional information see the Interplay Best Practices Guide.

The RTID (real time ID) value in the Storage Roots window allows the system to identify each monitored workspace with an integer value. This can help with trouble shooting and is also used in the new Storages window to identify values associated with each workspace.

Heartbeat Information

Starting in Interplay v2.4, you can view heartbeat information for each workspace being monitored by the Media Indexer. Heartbeat refers to the network connectivity between the Media Indexer and the shared storage workspace.

The system displays the Heartbeat information at the bottom of each Storage Root window as shown in the following illustration.
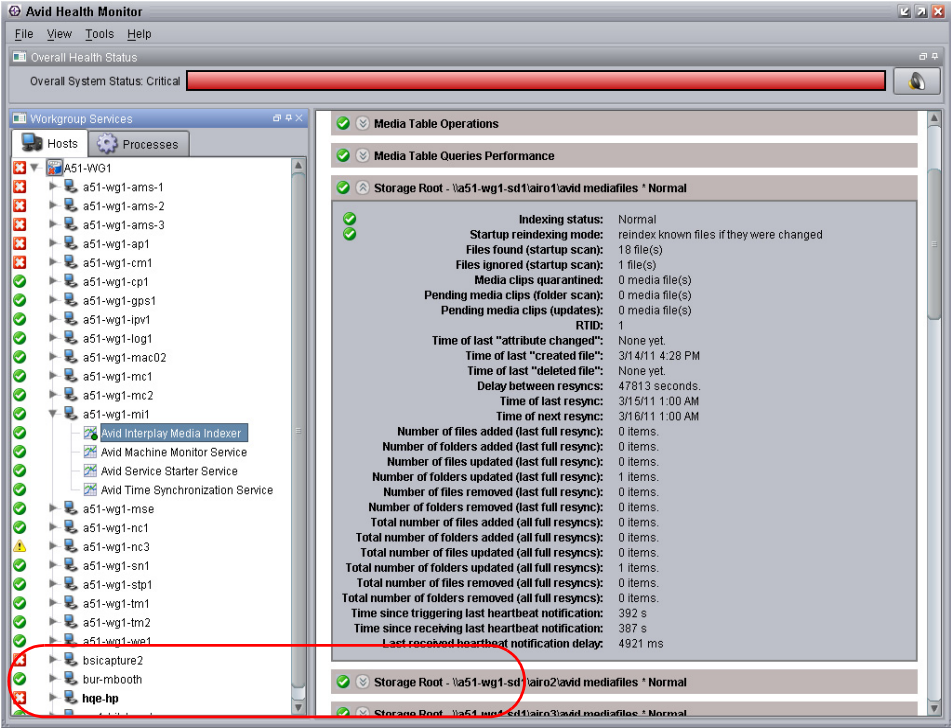
The "Last received heartbeat notification delay" is the value of interest. Check the value periodically and record the value. Over time you will get an idea of the normal delay value for that workspace. If you notice a spike in the value it may indicate that there is a problem with the connectivity to shared storage. Check the System Director Administrator user interface to see if there are any problems or additional loads being placed on the shared storage system.

In most cases a delay of up to 30 seconds is usually acceptable. If it takes several minutes, it is a sign that there may be a problem with the connection between Media Indexer and ISIS shared storage.

Each received heartbeat notification is also logged to the storage-notification log in the following directory:

\Program Files\Avid\AvidMI\state\log

If a problem occurs you can check the log to determine when the problem started and correlate it with any other occurrences in your Interplay environment that happened around the same time. For example, it can be useful to check the heartbeat values if there is a problem with new media not coming online fast enough. In that case, compare the values on the other Media Indexers in the HAG to see if there is a problem with one of them or to rule them out as part of the problem.

The default for the heartbeat is 600 seconds (10 minutes). You can change the heartbeat interval value by editing the following line in the jini.config file:

```
static notifiactionsHeartbeatInterval = new Integer( 600 );
```

The jini.config file is located in the following directory on the Media Indexer server:

\Program Files\Avid\AvidMI\state\config

A Interplay Maintenance Recommendations

This chapter provides a list of maintenance activities that should be performed regularly in an Interplay environment.

- Interplay Daily Maintenance Check List
- Interplay Weekly Maintenance Check List
- Interplay Monthly Maintenance Check List
- Avid ISIS Recommended Maintenance
- Complete Server Room Shutdown

The Interplay Administrator includes a set of maintenance tools for specific problems. You can also run these regularly, depending on your workflow.

Interplay Daily Maintenance Check List

Interplay Daily Maintenance Check List

Task	For more information
Avid ISIS	
❑ See "Avid ISIS Recommended Maintenance" on page 285.	
AirSpeed Multi Stream Playout Servers	
❑ Check Dashboard for "Warnings" or "Alerts." Clear and protect inventory of materials as required for daily operation.	*Avid AirSpeed Multi Stream Installation and User's Guide*
Infortrend RAID disk set (for Avid Interplay Engine Cluster)	
❑ No reboot maintenance is required for the Infortrend RAID disk set. RAID disk sets such as the Infortrend are designed for 100% uptime and generally do not benefit from being power cycled.	See the *Avid Interplay Engine Failover Guide*.
Avid Interplay Media Indexer	
❑ Use the Avid Service Framework Health Monitor to check memory and CPU usage. If the available memory falls below 10% (red zone in Health Monitor), the Media Indexer stops indexing new files.	*Avid Interplay Best Practices*
❑ Check the Health Monitor to make sure the number of "Table adapter listeners" is consistent with the number of actual clients connected to the MI. This number should be close to the actual number of machines connected to the MI. If this number keeps growing and becomes greater than the number of clients by an order of magnitude, call Avid Technical Support and schedule a restart for the MI.	
Avid Editing Applications	
❑ Restart all Avid editing client systems including Media Composer, NewsCutter, Symphony, Avid Assist, and Avid Instinct.	
Avid recommends that you reboot the editing systems at the start or end of an editing shift/session. This allow the units to perform power on self-checks to verify low level hardware health.	

Interplay Weekly Maintenance Check List

Interplay Weekly Maintenance Check List

Task	For more information
Avid ISIS	
❑ See "Avid ISIS Recommended Maintenance" on page 285	
Interplay Engine an Interplay Archive Engine	
❑ Ensure that individual ingest folders do not contain more than 5,000 objects each.	
❑ Delete older AvDeletes log files from the following folder:	
• *InterplayEngineName*\C$\Program Files\Avid\Avid Interplay Engine\Logs\Machines*InterplayEngineName*	
Interplay Transfer Server	
❑ Inspect the Transfer Engine internal disc drive for minimal normal free space. If the discs are reporting higher than normal use, inspect for the presence of large logging or other error reporting files with recent creation dates, Report any unusual findings to the site management for follow on activities.	*Avid Interplay Transfer Setup and User's Guide*
📇 *Starting in Interplay v3.0, Interplay Transfer no longer requires a weekly reboot. A monthly reboot is sufficient.*	
Interplay Media Services	
❑ Purge all jobs and restart the Media Services server and Provider systems, including Transcode Provider, Archive Provider, and ProEncode Provider. To purge jobs, use the Avid Interplay Media Services and Transfer Status window.	*Avid Interplay Media Services Setup and User's Guide*
📇 *Do not shut down the Media Services server while jobs are in progress. It is fine to shut down the server while jobs are pending. They will restart after the server is restarted.*	
Avid Media Indexer	
❑ Rebalance the Media Indexer configuration and/or storages to make sure sufficient indexing memory is available for the Media Indexer. Use the Media Indexer web interface or Avid Service Framework Service Configuration tool to check and modify the Media Indexer configuration.	*Avid Interplay Software Installation and Configuration Guide*

Interplay Weekly Maintenance Check List (Continued)

Task	For more information
Avid Interplay Adapter	
❑ Restart the Avid Interplay Adapter services. On the system(s) running the Interplay Adapter service, restart the service in the Computer Management window.	See "Installing the Interplay Adapter" in the *Avid Interplay Software Installation and Configuration Guide*.

Interplay Monthly Maintenance Check List

Interplay Monthly Maintenance Check List

Task	For more information
Avid Interplay Engine	
❑ Check the ratio between the number of database pages and the number of objects in the database. This value is automatically calculated and displayed in the Interplay Administrator tool.	See the chapter on "Determining Interplay Database Scalability" in the *Interplay Best Practices Guide*.
Note that the Interplay Engine does not need to be restarted except for the following reasons:	
• To verify system health before an upgrade. See the section "Best Practices for Performing an Engine Upgrade" in the Interplay Readme.	
• Testing the failover capability on a cluster system during regular company maintenance windows (for example, twice a year).	
Interplay Transfer Server	
❑ Delete the following Interplay Transfer temp files from the C: drive:	Avid Interplay Transfer Setup and User's Guide
• My Computer>Local Disk C:\temp	
• My Computer>Local Disk C:\tmp	
The reason for files left in the Transfer Engine temporary directories may be due to failed transfer sessions.	
❑ Delete the following Interplay Transfer server log files from the C: drive:	
My Computer>Local Disk C:\ProgramData\Avid\Temp\TMServerLog	
❑ Reboot Interplay Transfer server CPUs. To do this, stop the Interplay Transfer Engine application and then reboot the CPU.	

Interplay Monthly Maintenance Check List (Continued)

Task	For more information
❑ Restart Interplay Transfer Engine application from the desktop shortcut.	

Avid Interplay Stream Server

❑   Reboot the server. and clean up the log files.

    In the log folder, keep the following files (these are the current ones)

    C:\Program Files\Darwin Streaming Server\Logs

-   StreamingServer.log

-   Error.log

-   server_status

    and delete the following categories of log files:

-   Error.xxyyzzaaaa.log

-   mp3_access.xxyyzzaaa.log

-   StreamingServer.xxyyzzaaa.log

Avid ISIS

❑   See "Avid ISIS Recommended Maintenance" on page 285

Avid Service Framework

❑ Use the Health Monitor to check memory and CPU usage of server-side Framework services (Lookup, System Configuration, Time Sync Master, Email). Check to make sure that none have memory that is increasing at an unusual rate and that none have persistently high CPU usage.	*Avid Service Framework User's Guide*

Avid ISIS Recommended Maintenance

Typically, the Avid ISIS does not need to be power cycled. All components of the Avid ISIS stack can be individually replaced or restarted without interfering with the production of Avid ISIS stack.

⚠ **Power cycling the entire stack (all the components at the same time) could risk the stability of the Avid ISIS stack.**

For a detailed description of the maintenance procedures for Avid ISIS, see the *Avid ISIS 7000 Setup Guide* ,*Avid ISIS 5000 Setup Guide*, or the *Avid ISIS 2000 Setup Guide*.

Complete Server Room Shutdown

There is no requirement to power cycle the entire Avid infrastructure but, if the need arises to turn off *all* the equipment (such as a relocating the server room), turn off the components in the following order. When turning on the components, use the reverse order.

To shut down the entire Avid Interplay workgroup (server room):

1. Shut down all Avid editing systems and attached media I/O equipment.

2. Shut down all capture and playout servers such as AirSpeed Multi Streams.

3. Shut down Interplay Capture and CaptureManager servers.

4. Shut down Interplay Transfer Server.

5. Shut down Avid Interplay Media Services and Providers

6. Shut down Interplay Engine and Avid Interplay Archive Engine.

7. Shut down Media Indexers — Don't stop Media Indexer while it is indexing storage, see "Shutting Down the Media Indexer" on page 263.

8. Shut down systems running the Service Framework Lookup Service.

9. Shut down Backup Avid ISIS System Director.

10. Shut down Primary Avid ISIS System Director.

11. Shut down Avid ISIS Drive Chassis.

12. Shut down network switches.

Turn on the entire rack of equipment in reverse order as above and verify that all clients have mounted the necessary Avid ISIS Workspaces.

B Archive Migration (Workgroup 4)

Starting at Interplay v1.1.4, you can migrate MediaManager v4.5.x (also known as Workgroup 4) archived assets to an Interplay Archive environment. See your Avid representative for details on migrating.

Conversion of OMF to AAF metadata does not happen during the migration process. The OMF to AAF conversion occurs when the metadata is checked in and out of an Interplay Window using a separate Interplay API. Media files remain as OMF files until you create new media, for example, using transcode or render to create AAF media files.

Searching for Migrated Workgroup 4 Archive Items

After importing the Workgroup 4 assets into an Interplay Archive system database, you can use Avid Interplay Access to filter the assets you want to restore from the imported Workgroup 4 assets.

There are two special attributes "WG4 Archived Date" and "WG4 Tape Group" that apply only to Workgroup 4 clips. These two items are available as Interplay Archive search values.

The following illustration shows the Workgroup 4 attributes and the icons used to identify Workgroup 4 assets before the restore process. The Workgroup 4 icons are similar to the masterclip, subclip, and sequence icons used with Interplay assets, except they include a 4. After the restore process the 4 is removed from the Workgroup 4 icons to display the type of asset, such as clip, subclip, sequence, and so on.
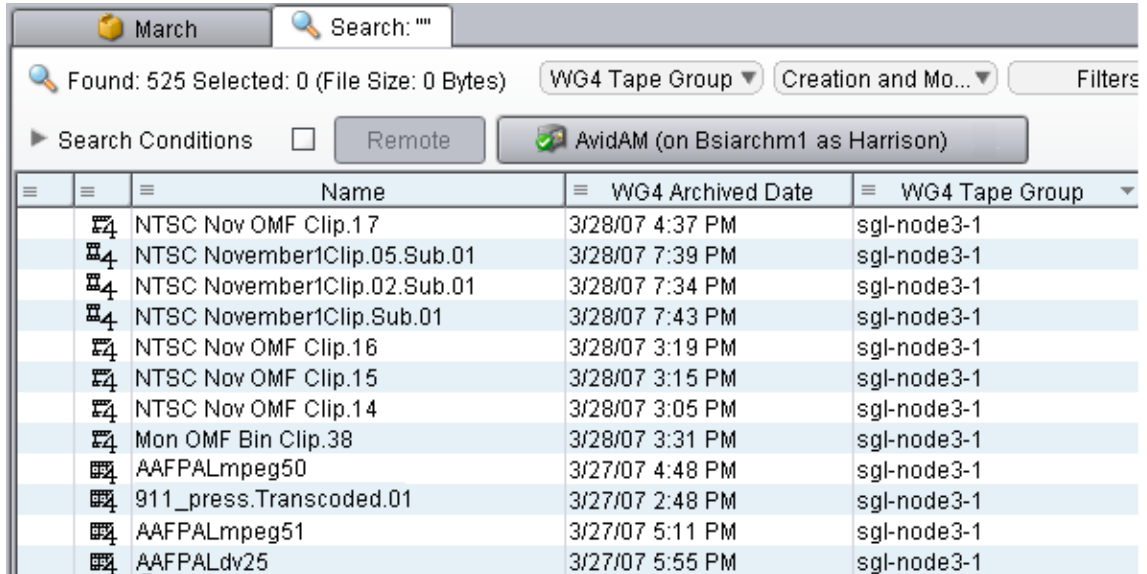
Workgroup 4 asset icon after import process
but before restore process.

To search for Workgroup 4 assets in Avid Interplay Access:

▶ Perform a normal search using the type of asset you want to restore.

The values allowed are masterclip, subclip, and sequence.

Restoring Migrated Assets

After you migrate the Workgroup 4 archive metadata, you can restore the migrated clips at your convenience. However, to take advantage of some Interplay restore features, such as partial restore and MultiRez, it is also necessary re-archive your Workgroup 4 media into Interplay Archive. For more information, see "Working with OMF Media Files After an Archive Migration" on page 294.

For information on restoring different versions of MediaManager clips, see "Restoring Different Versions of a MediaManager Archive Clip" on page 289.

Be aware of the following when restoring migrated clips:

- Avid recommends that you schedule time to restore all of your archived Workgroup 4 media and then re-archive it in Interplay Archive. See "Working with OMF Media Files After an Archive Migration" on page 294.

- Avid recommends that restored Workgroup 4 clips be rearchived to a separate partition to keep the restored Workgroup 4 assets separate from the Workgroup 4 tapes. This makes it easier for deletions; see "Working with OMF Media Files After an Archive Migration" on page 294.

- After the Workgroup 4 assets are restored in Avid Interplay Archive database, Avid recommends that you change the OMF metadata to AAF metadata. From an Avid editing application, check in and then check out the assets to change the OMF metadata to AAF metadata.

- You don't need to manually convert the AAF/MXF media track length information because the Media Duration Update tool is automatically run when performing a restore.

- Partial Restore is not supported with migrated OMF media files. If you want to use Partial Restore with these media files, you can transcode the assets to create MXF media files and rearchive, and then subclip or Mark IN/OUT into a sequence to partial restore.

To restore the migrated clips:

▶ Perform the operation as a normal Restore. See *Avid Interplay Media Services Setup and User's Guide*.

In Interplay Access, the media status shows the media as online. However, an Avid editing application might show the media as offline until you update the status.

You might need to click in the Interplay Access window and then click the File Locations tab to see the updated file path.

Restoring Different Versions of a MediaManager Archive Clip

The Migration tool imports the latest version of MediaManager (WG4) clips into Interplay. If the latest version is not the version you want, follow the steps in "Locating the Correct Version to Restore" on page 290 to locate and restore the correct version.

After performing the archive migration, the FlashNet server database contains entries for different versions of the metadata for Avid assets such as sequences and master clips. These entries are stored in an SQL table named "avid." You can perform a search in the SQL database to locate the version that you want to restore. After determining the correct clip versions, you can use Interplay Access to restore the desired version.

> *Before you begin, make sure you have a recent backup version of your Interplay database.*

Locating the Correct Version to Restore

To use SQL Management Studio to locate the correct version:

1. On the FlashNet server, select Start > Programs > Microsoft SQL Server 2005 > SQL Server Management Studio.

2. Select the appropriate database and select New Query.

3. Type the following into the Query window:

```
Select C_A_NAME, C_ARCHIVE_DATE, C_A_TOTAL_SIZE, C_ARCHIVE, C_VOLUME
from avid where C_A_NAME =
'clip name'
order by C_ARCHIVE_DATE
```

where *clip name* is the name of the clip you want to search for. The following illustration shows an example using a clip named CALIFORNIA GOVERNOR 040628.
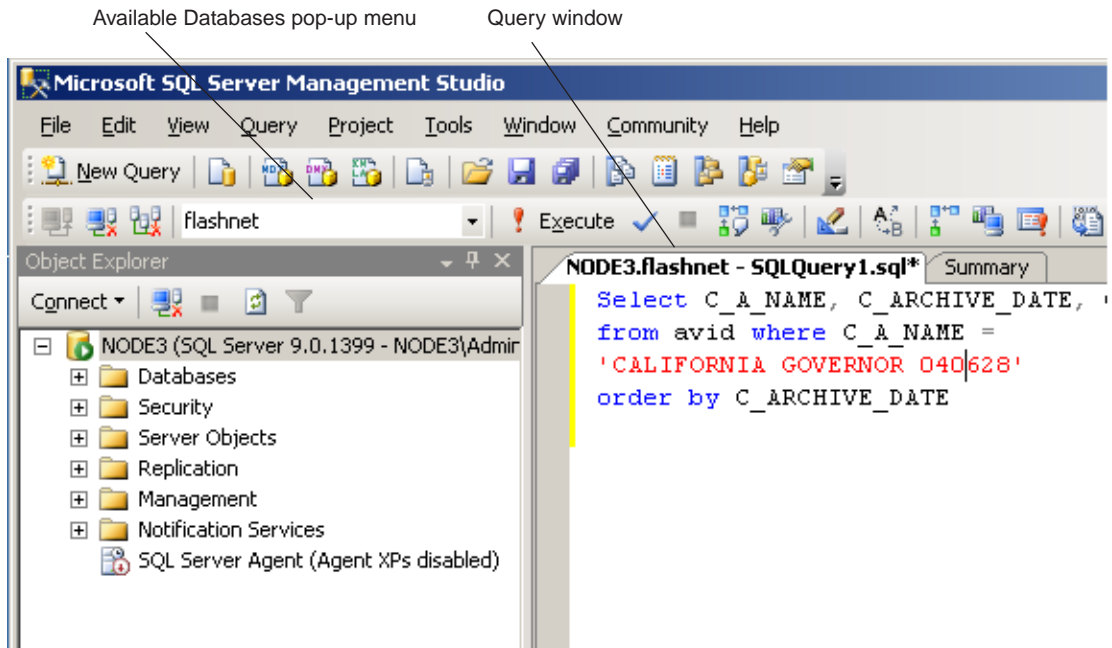
The following illustration shows the Query window in more detail.
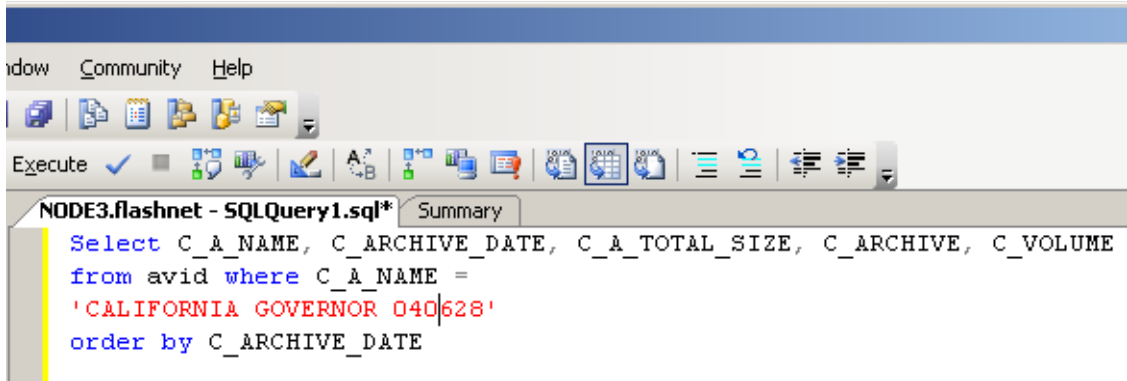
The following illustration shows the result panel for this search.

The migration tool imports only the latest archived asset. In the preceding illustration, this is the version archived at 2004-07-27. In this example, the version archived at 2004-07-06 is a more desired version. The clip archive number is 123 and the Volume name is RNC164. The file size is also larger than the 2004-07-27 version.

Setting the Correct Version Information for the Clip in Interplay Access

You use Interplay Access to change the clip's archive number and volume name in the Interplay database.

To use Interplay Access to change the version to restore:

1. Log in to Interplay Access as an Administrator and search for the clip.

2. Right-click the clip and select Advanced.

3. Click Get/Set Property and click the All properties tab.

4. Scroll down the Name list and locate WGArchive ID and WGArchiveTapeID.

The following illustration shows the selections for this example.

The All Properties tab shows the current WG4Archive ID and Archive Tape ID values. In this example, we want to change the WGArchive ID to 123 and change the WG4ArchiveTapeID to RNC164.

5. Click the Get/Set Property tab and select WG4ArchiveID from the Name list.

6. Click the Get button. The system displays the current value in the Value window.

7. Type the new value in the Value window and click the Apply button.

   The following illustration shows the new value for this example.
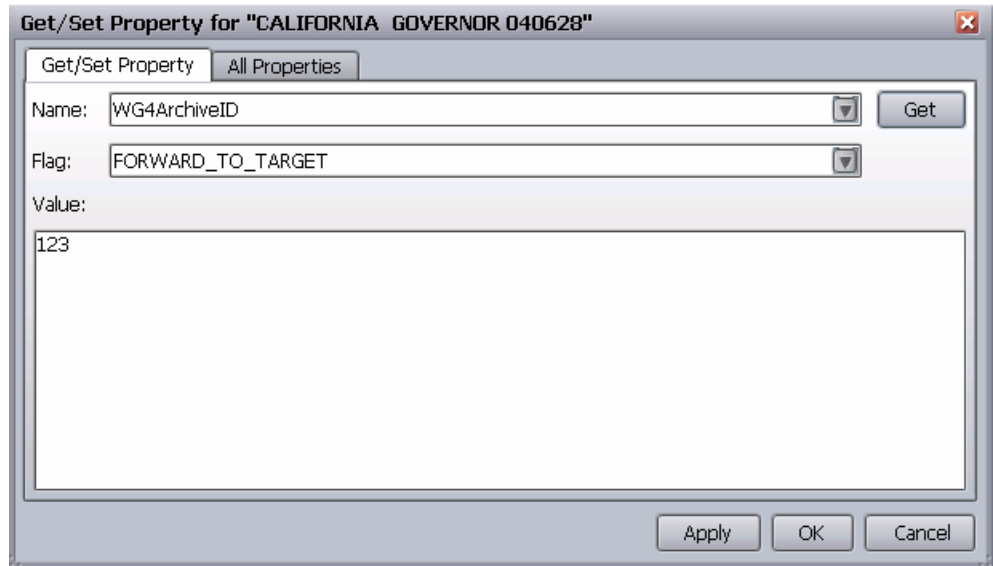
8. Select the WG4ArchivetapeID from the Name menu and click Get. The system displays the current value in the Value window.
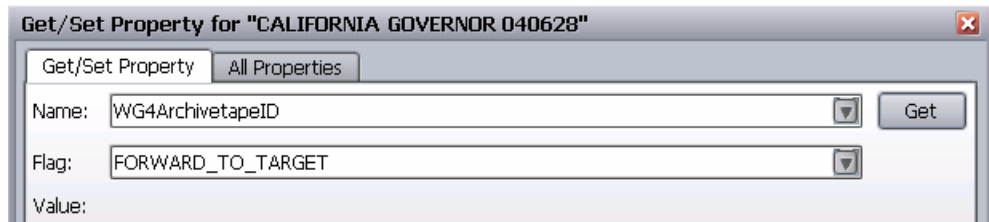
9. Change the value, and click the Apply button. In this example we change the value to RNC164.

10. Click the All Properties tab and verify that the new values are correct.

11. Click OK to close the dialog box.

Restoring the Clip from the MediaManager Database

To restore the correct version of the clip:

1. Locate the clip that you want to restore in Interplay Access.

2. Delete the media for the clip.

⚠️ **If you have already restored the clip and want to restore a different version, delete the Interplay version of the media before you perform the restore.**

3. Right-click the clip in Interplay Access and select Restore.

Working with OMF Media Files After an Archive Migration

You can troubleshoot problems that might occur with OMF media that is restored after an archive migration. The conversion of OMF to AAF metadata does not happen during the restore process. Media files remain as OMF files until you create new media. For example, using transcode or render to create MXF media files. For specific steps on performing the archive migration, see your Avid representative.

To create MXF media files after migrating a Workgroup 4 archive:

1. After you migrate the Workgroup 4 archive database to Interplay, restore the media to a specific workspace, for example, one named WG4.

2. If you check out a reference clip from the sequence and notice that some of the media is offline, use the Avid editing application's Reveal File command to verify whether the online media comes from the "WG4" workspace. If it does, you are working with OMF media. For example, if you have an OMF sequence containing alpha, the video fill is online but the alpha media is offline.

3. Do the following in the Avid editing application:

   a. Change the Dynamic Relink settings by doing one of the following:

      - Select If no match is found > Keep Existing Media.

      - Turn off Dynamic Relink.

   b. Check out the sequence again.

      At this point the media should be online.

4. Transcode the sequence to an MXF resolution by doing the following:

   a. Open the Consolidate/Transcode dialog box.

   b. Select Transcode.

c.   Select Convert Video.

d.   (Option) Select Create New Sequence, if you want to create a new sequence for the MXF media that is separate from the OMF media.

e.   Click Transcode.

New MXF media is created for the entire sequence. Turn on Dynamic Relink to link the sequence to the new MXF media.

5. (Option) Rename the OMF sequence so you can identify it as being linked to OMF media. This makes it easier to delete the OMF version later. See "Deleting the Online OMF Media" on page 295.

6. (Option) Rearchive the sequence that is linked to the MXF media. This lets you take advantage of partial restore the next time you restore the sequence.

Deleting the Online OMF Media

Use the following methods to delete the online OMF media files:

•   If you used Create New Sequence to create the MXF media, you have two sequences: one linking to OMF media and another linking to MXF media. After you perform the transcode, rename the OMF version so you can identify it for deletion. Then you can use Interplay Access to search for sequences with that text in the name. Delete the sequence and the media.

•   If you did not select Create New Sequence in the Consolidate/Transcode dialog box before you transcoded the sequence, the sequence's clips link to both the OMF media and the new MXF media. In this case there is no way to delete just the OMF media from Interplay Access. If you want to free up disk space, you must manually remove the OMF media files from your Interplay environment.

To manually delete online OMF media files:

1. Use one of the following methods to identify the media files:

    ▶   Select a clip from the sequence in Interplay Access and select the File Locations tab in the Object Inspector, then identify the .omf file in the File Path column.

    ▶   Use Reveal File in the Avid editing application to identify the OMF files associated withe the clip.

2. Use Windows Explorer to delete the associated .omf files.

⚠ **This procedure should only be performed by an Administrator to avoid deleting the wrong media files. In general, you should only use the Interplay applications to delete media files.**

Retained Workgroup 4 Clip Attributes

The following table list the Workgroup 4 attributes that carry over to the Interplay Archive database.

📖 *These attributes are not available in Avid Interplay Access until after you perform a restore of the Workgroup 4 assets.*

Workgroup 4 Clip Attributes Retained in Interplay Environment

Attribute	Master clip	Subclip	Sequence
Archive date	X	X	X
Tape group	X	X	X
File location	X		X
Start	X	X	X
Duration	X	X	X
End	X	X	X
Mark_In	X	X	X
Mark_Out	X	X	X
In_Out	X	X	X
FPS	X	X	X
KN_dur	X	X	X
Video	X	X	X
Tracks	X	X	X
Audio_Format	X	X	X
Audio_SR	X	X	X
CFPS	X	X	X
Created_by	X	X	X
Tape_ID	X	X	X
Creation_Date	X	X	X

Workgroup 4 Clip Attributes Retained in Interplay Environment (Continued)

Attribute	Master clip	Subclip	Sequence
Modified_Date	X	X	X
Media_Size	X	X	X
Comment	X	X	X

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X