Avid Interplay Web Services

Version 1.1

Avid

Table of Contents

Overview

Avid Interplay is a non linear workflow management system that is able to connect editors, producers, designers, animators, writers, assistants, administrators—even finance and legal departments—in a real-time nonlinear production environment. Interplay can be configured to automate routine tasks, track any kind of media, streamline administration, prevent unauthorized access, and accelerate turnaround at every step of the workflow, from pre-production to archive.

Avid Interplay has a feature rich toolset which includes applications designed to meet the needs of media librarians, production assistants, loggers, editors and many more. Whilst these tools meet the needs of the majority of users there is often a requirement to extend Interplay's functionality outside the bounds of its in-built toolset. For example there may be a requirement to interface with an external Digital Asset Management system, or with the media transfers provided by a Digital Delivery solution.

In order to enable third parties to integrate their solutions with Avid Interplay a web services interface is available. By exposing many of the functions that were previously only accessible through the Interplay Access application third parties can now integrate Interplay seamlessly into their customised automated workflows.

Interplay Web Services Functionality

In this release Interplay Web Services provide third parties with the majority of those functions that they would need in order to manage assets in an Interplay environment. Key functionality includes:

- Folder navigation and listing
- Folder management
- Asset check-in
- Asset retrieval
- Metadata input and retrieval
- Searching
- Locator management
- Sub-clip creation
- Headframe management

The sections which follow provide a detailed overview for each of the functions.

Folder Listing

The children of any folder, including the database root node, may be listed. The listing is not itself recursive however third party solutions can easily implement such functionality. It is possible to restrict the listing of a folder to return only Avid assets, File assets or Folders.

Check In an Asset

Avid assets are typically referenced through AAF files (see the later section About Assets and Media), so in order to check an Avid asset into the database an AAF file is uploaded. In the case of a File asset, such as a JPEG file, Word document or Adobe Photoshop file for example the actual file is uploaded.

Retrieve an Asset

Copies of both Avid and File assets can be retrieved from Interplay. The retrieve function effectively performs an Interplay "Get Latest" operation which transfers a copy of the latest version of an asset to the calling workstation. Note that this does not perform a check-out, which would lock the asset against changes until a subsequent check-in operation.

Note also that in the case of Avid media assets this function retrieves only the metadata (see the later section About Assets and Media) and not the media it references. The metadata information however can be used together with other Avid workgroup APIs to

transfer or retrieve the media itself. Another example of the use of such a file might be a third party logging solution. Using the web services API it would be possible to obtain the AAF file which references the media in question, populate it with locator information corresponding to the logged shots, and then check it back into Interplay.

Link to an Existing Asset

This function allows the caller to create a link to an existing Avid asset, the link being placed in a folder specified by the caller.

Metadata Exchange

Metadata associated with Interplay assets is typically accessed through the use of attributes. Some attributes are designated as System attributes, and are typically read only. User attributes can both be read and written through the web services interface, which can also be used to create application specific custom attributes. Such custom attributes can be displayed by Interplay applications such as Interplay Access, they can also be seen in the bin columns of an Avid editor. It is possible to search custom attributes.

Searching

Searches can be made using web services which are very similar to those offered by the advanced search capability of Interplay Access. Searches are performed by setting criteria for one or more attributes, with the criteria linked by AND and/or OR logic. The precise criteria that can be applied depends on the nature of the attribute, e.g. whether it is text, date/time, etc. The search criteria currently available are:

- EQUALS: The attribute value must be an exact match
- NOT_EQUALS: The attribute value can be anything except an exact match
- CONTAINS: The search phrase must be contained somewhere in the attribute value
- NOT_CONTAINS: The search phrase must not be contained anywhere in the attribute value
- LESS_THAN: Useful for date-based searches to find matches before the given date and time
- LESS_THAN_OR_EQUAL_TO: Like LESS_THAN, but inclusive of the passed in date and time
- GREATER_THAN: Useful for date-based searches to find matches after the given date and time

- GREATER_THAN_OR_EQUAL_TO: Like GREATER_THAN, but inclusive of the passed in date and time

Note that searching takes place within a defined folder location and includes all folders below it. Note also that the web services search applies to a single database only, it does not search simultaneously across multiple workgroups nor pass the criteria to an external federated search plug-in.

Folder Creation

The API allows a third party solution to create new folders within the Interplay database. In fact it is possible to create a single nested folder path with a single call.

Moving Assets

Any asset, whether it is an Avid asset, File asset or even an entire folder, can be moved to a different location in the database. This function could be used as part of a workflow management operation, in which assets are moved to different folders as a project progresses, e.g. unassigned, in progress, waiting review, approved, etc.

Duplicating Assets

This call allows an asset, either Avid or File, to be duplicated (i.e. copied) to another location in the database. In the case of an Avid asset, such as a sequence, a new sequence having all the characteristics of the original is created but with its own unique identification. This can enable workflows which require, for example, new sequences to be created from a pre-existing template.

Locator Management

Three functions are provided in support of locator management: get, save and remove. Get Locators retrieves a list of all the locators associated with a designated clip. Save locators can be used either to add new locators to a clip or modify existing ones whilst remove locators deletes existing locators from the designated clip.

Sub-Clip Creation

The Create Sub-clip function allows a new sub-clip to be created in the Interplay database. The sub-clip references a designated master clip together with the desired offset into the clip and the duration of the sub-clip. Additionally a headframe may be provided and it is also possible to set user metadata for the sub-clip.

Headframe Management

Two functions are provided for headframe management. These allow a new headframe to be provided for an Avid asset together with the ability to retrieve the existing headframe.

About Assets and Media

Note that many functions are concerned with assets that, in their turn, reference actual media which is typically located on associated Avid shared storage. Whilst Interplay Web Services allow access to the assets which reference the media, they do not currently provide direct access to the media itself, such access would typically be achieved through the use of one of Avid's workgroup APIs.

Virtually all Avid media assets are referenced within Interplay through AAF files. AAF (Advanced Authoring Format) files can be created using a public Open Source toolkit which is available from the Advanced Media Workflow Association (http://www.amwa.tv/) formally known as the Advanced Authoring Association.

Supported Standards

Interplay Web Services are based on SOAP 1.1 and are compatible with the most commonly used web services frameworks. Avid has tested the services for interoperability with:

- .Net 2.0
- Sun Metro for Java (JAX-WS)

Note that since web services are well adopted, Interplay WS is likely to work with other frameworks and languages like Java Axis 2.0, Python, Perl and others, although these have not been specifically tested by Avid.

Web Services Deployment

Interplay web services are currently deployed as SOAP services running on an Apache server. The web services installer installs the server together with all relevant supporting files. Note that the location of the web services server should be chosen carefully in order to avoid any adverse effect on Interplay operation. Avid Professional Services will be happy to advise as to the most appropriate location for a particular installation.

How to obtain Interplay Web Services

The Interplay web services API is provided in the same way as other Avid APIs and is typically the subject of a license agreement. For further information please contact your local Avid sales office.