



Supporting Proxy Workflows with Avid Interplay 2.0

Introduction

With Avid® Interplay® 2.0, Avid is employing an open proxy format using standards already widely available to third parties and customers. This proxy format is a profile of well-understood and documented standards (QuickTime, MXF, MPEG 4 part 2 video, MPEG 1 layer 2 audio), integrated to meet the needs of the broadcast and postproduction markets for a bandwidth-efficient low resolution proxy that can be accessed equally well over a production LAN, a secure WAN, and the Internet. Note that an implementer of this open proxy format must have a valid set of licenses from the appropriate licensors of the standards used in the format.

The selected proxy provides an integrated collection of media, with a data rate of under 1 megabit per second including the video essence and 4 channels of compressed audio, which can be used in 3 distinct technical contexts:

- Native Avid Op-Atom media. Avid applications such as editors which rely on media wrapped as OP-Atom files are able to use the proxy material in the same way as any other media format.
- Native QuickTime streaming media with a dedicated Avid player. Avid Interplay Access 2.0, a major upgrade to our Access production asset management tool, now includes a streaming player which supports frame-accurate proxy playback, together with logging and shotlisting functionality.
- Native QuickTime media with third party players. The same streaming media and wrapper employed with the Avid Interplay Access 2.0 player can also be used with popular industry solutions, such as Apple's QuickTime 7.x and Real Networks' Real Media players.

We have not developed any in-house codec technology in implementing the proxy, and our shipping solutions that support the proxy actually integrate 3 different third-party implementations of the underlying (MPEG4 and MPEG1) codec suite, generating and reading common media. As a result, we are very confident that the media essence used in this proxy should work with most third party codecs implementing MPEG4 part 2 and MPEG1 layer 2.

Implementing End User Solutions

Unlike technologies that Avid has licensed to the industry, such as Avid DNxHD®, there are no constraints placed by Avid on use of this format, provided that the user already holds or obtains valid licenses from the appropriate licensors of the standards involved.

In the future, should there be a demand from the partner or end user community, Avid may choose to license its player implementation to other companies on a fee-based basis, or to provide a marketing framework or logo for the standard, which could involve royalties or annual dues for participation. However, there are currently no plans to go beyond the current, "open standards" implementation.

In addition, a beta version of the Avid Media Toolkit 1.5 (which enables developers to exchange media natively with an Avid infrastructure) supporting the new proxy format, is currently in beta test and is expected to be freely available by the end of 2009. Please contact Avid's third party developer support team or Sam Bogoch if you are interested in receiving notification when this ships, or in participating in the beta program.

Example Solutions

Avid's intention in making this solution available to third parties is to allow it to be integrated into a wide range of infrastructures and solutions with the minimum of effort.

Over time these may include third-party, or end-user defined solutions for:

- Logging applications
- Rough cut editing applications
- Craft editing applications
- Ingest servers
- Playout servers
- Transcode systems
- Media asset management systems
- Archive systems
- Field capture applications
- Review and Approval
- Content management and delivery, e.g. web, IP, etc.
- Integrating with non-Avid workflows

While the new proxy solution will enable many applications to browse and embellish material that already exists, in order to achieve a complete integration with an Avid production environment it may be advisable to integrate with other components to facilitate the exchange of transmission media and associated metadata. As well as the Avid Media Toolkit referred to earlier, a number of other integration solutions exist, such as Interplay Web Services and Interplay Workgroup APIs. For further details see the Avid website (<http://www.avid.com/us/partners/apis.aspx>) or contact Danielle Prigmore.

Proxy Specification

Clip wrapped OP-Atom MXF files to SMPTE-390M

QuickTime reference implementation facilitates on demand streaming of the media.

Video Specification

Encoding: MPEG-4 part 2.

Profile: Advanced Real Time Streaming (ARTS) Level: 4, I and P frames only,
no B frames

50i: 352x288, GOP length 12

59.94i: 352x240, GOP length 15,

Bitrate : 500kbits per second typical

Picture Essence ID: 06.0E.2B.34.04.01.01.03.04.01.02.02.01.20.02.04

Note that prior to each GOV header there is a 39-byte VOS/VO/VOL header as defined in section 2.6.1 of the MPEG-4 specification.

Audio Specification

Encoding: MPEG-1 Layer 2 audio, 4 channels (2 stereo pairs in 2 MXF files),
96kb/s per channel

