RAW WORKFLOWS:
CINEFORM TOOLSET

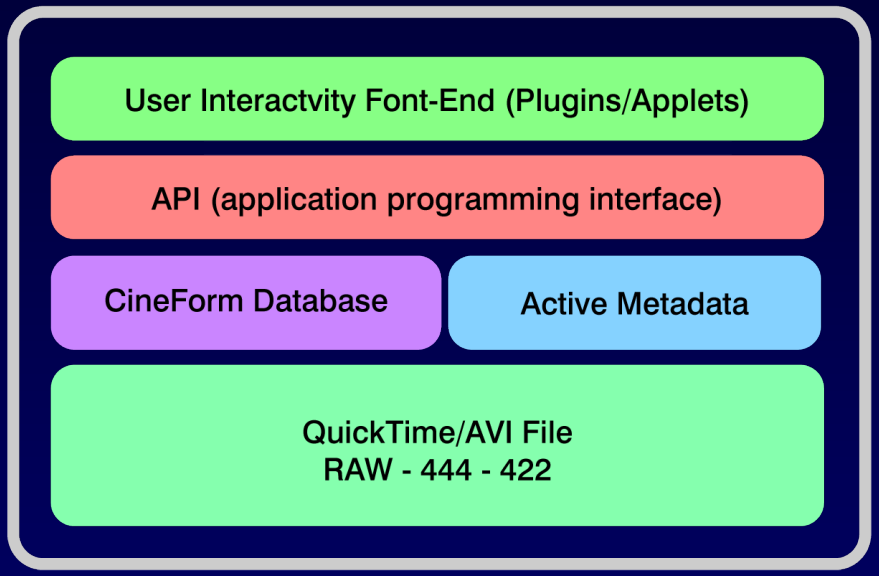
CineForm Product Family

- At the root of every CineForm product is the CineForm codec
  - High bit-depth (10+ bits)
  - 32-bit floating point processing pipeline for active metadata
  - Wavelet compression at extremely high-quality compression ratios (3.5:1)
    - No “blocking” like DCT (JPEG, DV, etc.)
  - Support for native pixel formats in camera RAW, RGB 4:4:4, and YUV 4:2:2
    - Multiple formats can exist on the same timeline in with a common codec rather that mixing multiple codecs
- Codec decoder is free! (encoder is not)

CineForm Product Family

- “CineForm” is more than a codec – it's a workflow system
- Composed of a series of software “layers” with a user-interactivity layer on the top that exposes the controls for the codec and interacting with the codec through the workflow process

CineForm Software Structure



Prospect/Neo

- “CineForm” is more than a codec – it's a workflow system
- The Prospect/Neo family of products comprise an additional set of user-interactivity tools that complete the workflow circle for the Windows and OSX platforms
  - Neo Player – Free decoder along with applets and tools to modify and manage active metadata on both RAW and RGB/YUV files
  - Neo 4K – Encoder and decoder product that adds additional functionality with batch conversion tools (HDLink), DPX import and export tools, etc.
  - Prospect 4K – Adds an additional real-time editing environment for Premiere Pro to the toolset from Neo 4K

Prospect/Neo Capabilities

- All the products can edit and change active metadata settings on both a global and local scale
- The Neo products do not include multi-stream acceleration features like Prospect 4K
- Only Neo 4K and Prospect 4K allow encoding back to CineForm RGB/YUV without a water-mark (so i.e., rendering effects on the timeline, etc.)
  - CineForm RAW is an acquisition-only format, you can't encode back to it on an editing timeline
- You can edit with the decoder-only (Neo Player)
  - Anything that doesn't require rendering back to CineForm can be done with the decoder products
  - On Windows, editing with Neo Player is not recommended (too slow)

Prospect/Neo Capabilities

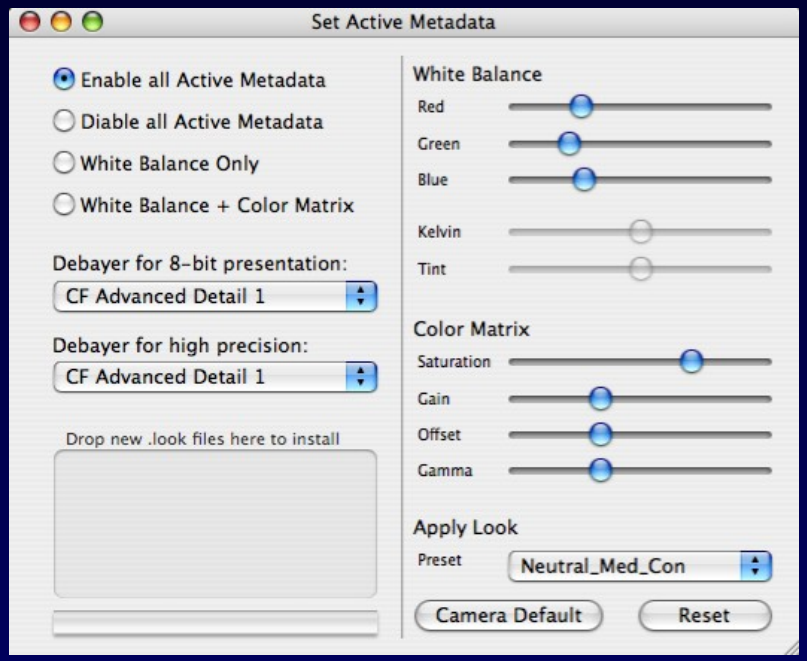
- No re-wrapping features come with Neo Player
  - This means you can't use HDLink for losslessly converting from QuickTime to AVI and vice versa
- Since CineForm is a high-quality, cross-platform digital intermediate codec, it becomes very handy as a format to move from editing to graphics, effects, etc., and then back to the edit suite to re-conform on the timeline
  - Adobe Dynamic Link
  - Final Cut Pro Motion Templates and Compositions
  - If you don't have the encoder, you're going to get stuck at this stage having to render out to format that is not ideal for digital intermediate work
    - ProRES is only 4:2:2 – RAW demosaics to 4:4:4

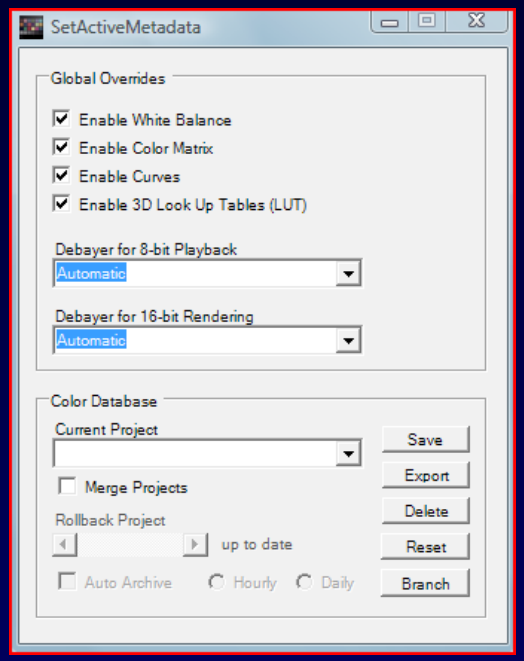
Final Cut and Neo 4K

- Allows native QuickTime and AVI files in both RAW, RGB, and YUV formats to exist on the same common timeline
- Not a “native” Apple codec, so doesn't have access to the Real-Time engine in FCP
  - You can still do real-time cuts only, and if you add effects, you just have to render them
- If you have very effects-heavy sequences:
  - Use an application like After Effects or Motion for the effects and import pre-rendered files in CineForm 444
  - Pre-encode all your footage to a real-time format like ProRES (only 4:2:2 though)

SetActiveMetadata Applet

- Ships with all CineForm products, and is cross-platform
  - Important differences between Windows and OSX though
- Allows adjustments of active metadata on both a global and per-file basis





Mac/Windows Differences

- On OSX it is designed to run concurrently in the background with a host application
  - It will read the metadata from whatever active file is being decoded by the QuickTime engine
- On Windows does not have the ability to change metadata per-file yet
  - Right now use Prospect 4K for that inside of Premiere Pro
- With OSX it's used to also register .Look files and CineForm database files (.ccdb)
  - Windows users can simply double-click these files to register them
- Windows users can use SetActiveMetadata to control the CineForm database (coming to OSX soon)

CineForm Database

- Active metadata from the camera is stored in the header of the AVI/QuickTime file
  - White-balance, matrix, 3D LUT (.Look file)
- User-defined changes to the active metadata are NOT stored in the file header – they are stored in a database on the local machine
  - Each database record is saved as an individual .cbd file
  - For OSX stored inside of /Library/Application Support/CineForm/LUTs/db/
  - For Windows stored inside of \Program Files\Common Files\CineForm\LUTs\db\
  - Database records use QT/AVI file GUID, not file-name – prevents duplicate entries no matter what

CineForm Database

- Main rule is that if no database record exists, there was no user-defined change to the metadata
  - Then CineForm decoder uses the active metadata settings inside the AVI/QT files
- If database record exists for that file, then there were user-defined changes
  - Database settings then over-ride the active metadata settings inside the QT/AVI file

Database Projects

- DB Records are setup and stored using a project-based paradigm
  - CineForm Database project files (.cdb)
- This allows multiple database records for the same file depending on what “project” you are working on
  - Creates a logical means of managing and distributing databases between users, machines, and even on the local machine between real-world projects
- SetActiveMetadata application is used to manage the database projects
  - Sets up and generates new database projects
  - Also does loading, branching, archiving, and deleting operations (Windows only at the moment)

Database Projects

- Primary Workflow:
  - Before you begin project, setup new database project file
  - Make adjustments to metadata as needed with that database project active (use SetActiveMetadata applet for this)
  - When you need to switch to new project, deactive the current database and load up a new one specific to that new project
  - Export the project when you need to move files to another machine – the metadata will now follow the files

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