ContentAgent
User Guide

Version 3.6.1

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Contacting Telestream

To obtain product information, technical support, or provide comments on this guide set, contact us using our web site, email, or phone number as listed in the table below.

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ContentAgent Technical Support	Web Site: http://www.telestream.net/telestream-support/contentagent/support.htm Support Web Mail: http://www.telestream.net/telestream-support/contentagent/contact-support.htm Email: casupport@telestream.net US Product Support: (866) 464-4636 (6am-6pm Pacific Monday-Friday) International Enterprise Support: +49 228 280 9141
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Introduction

Congratulations! You are about to enjoy using one of the world's most flexible platforms for automating file based ingest and delivery tasks for SD, HD, 2K, UHD and 4K digital media. ContentAgent is designed to streamline transcode-intensive workflows encountered in broadcast, postproduction and new media environments and, being intuitive in operation, delivers substantially increased productivity in a scalable solution.

With ContentAgent, you will be able to:

- Create workflows with intuitive GUI
- Resolution independent transcoding, image processing and QC
- Automated camera card based ingest including Avid Interplay workflows
- Use CardAgent for multi-user ingest-intensive operations
- Motion compensated frame rate conversion with Cinnafilm Tachyon
- Automated DVD creation for viewing copies
- Automated broadcast deliverables including AS-11 UK DPP workflow with Insert Edit and file-based QC
- Third party integration with leading technologies: Avid | Interra | Tektronix | Vidcheck | Minnetonka etc.
- Enterprise Scaling
- Local and Remote processing
- Rich API integration

Hardware Specifications

- ContentAgent runs as a software application on a variety of PC hardware including blade/rack servers and workstations. The system can run with standalone media storage or can be connected to a network topology (SAN, NAS etc.). Additional transcoding nodes (Job Agents) can also connect together with a main ContentAgent system (over an Ethernet or Fiber network) to provide a powerful render farm.
- For up to date hardware specifications please visit http://www.telestream.net/contentagent-2/contentagent-technical-specifications/

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CONTENTAGENT

SECTION 1 - Getting Started

To launch ContentAgent, simply double-click the ContentAgent desktop shortcut. This will start three relevant processes:

- ContentAgent
- ContentCentral (Database Manager, runs in system tray)
- JobAgent (Processing engine, runs in system tray)

The default login account is 'user' with password 'user'.

To close ContentAgent GUI only, simply click the red power button at the bottom right. Queued jobs will continue to process. To shut down all three processes, right click the CA icon in the TASK BAR and choose Full Shutdown

Figure 1 - Shutdown

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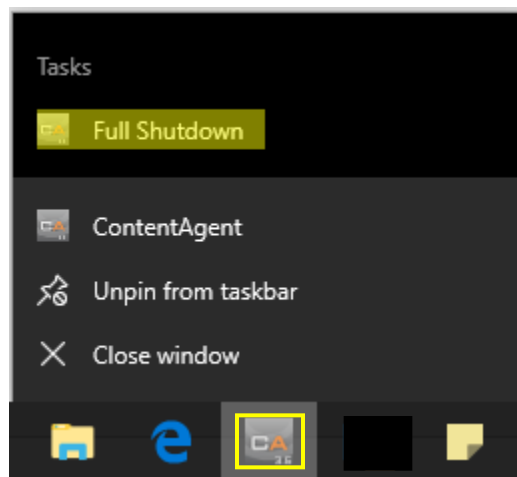
1.1 ContentAgent Layout
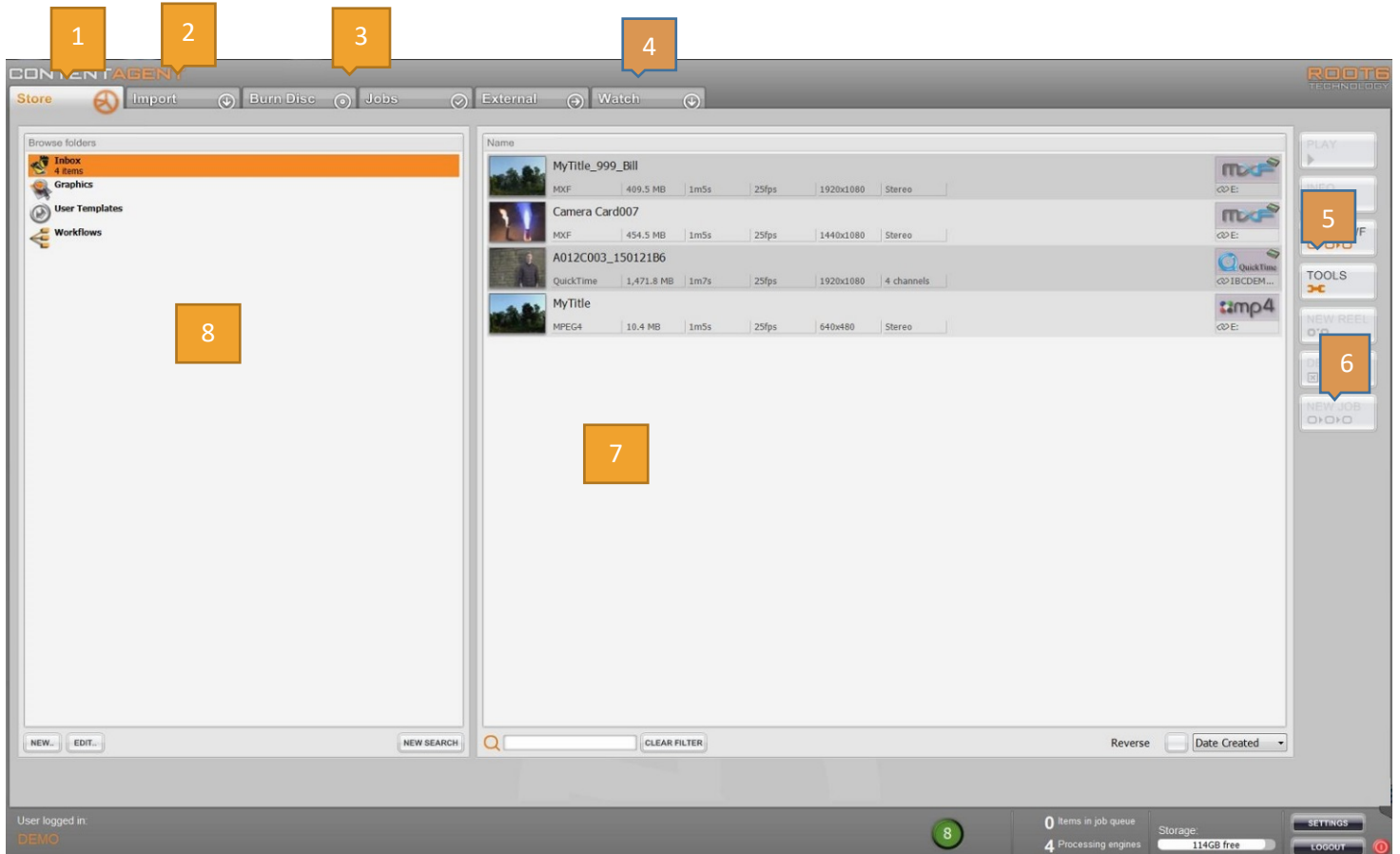
Figure 2 - ContentAgent Layout

1. Store – presents all stored items for the logged in user
2. Import – allows importing of items into the Store
3. Jobs - Monitor Job Queue
4. Watch - Setup and monitor Watchfolders
5. Tools – perform various functions including creating a workflow or template
6. New Job – only available if a clip is selected in the Store. Allows application of simple tasks or workflows.
7. Shows contents of selected folder
8. List of available folders

1.2 Configuring the System

Open **Settings** (on the bottom right of GUI or press **F12)** to produce a new pop-up window:
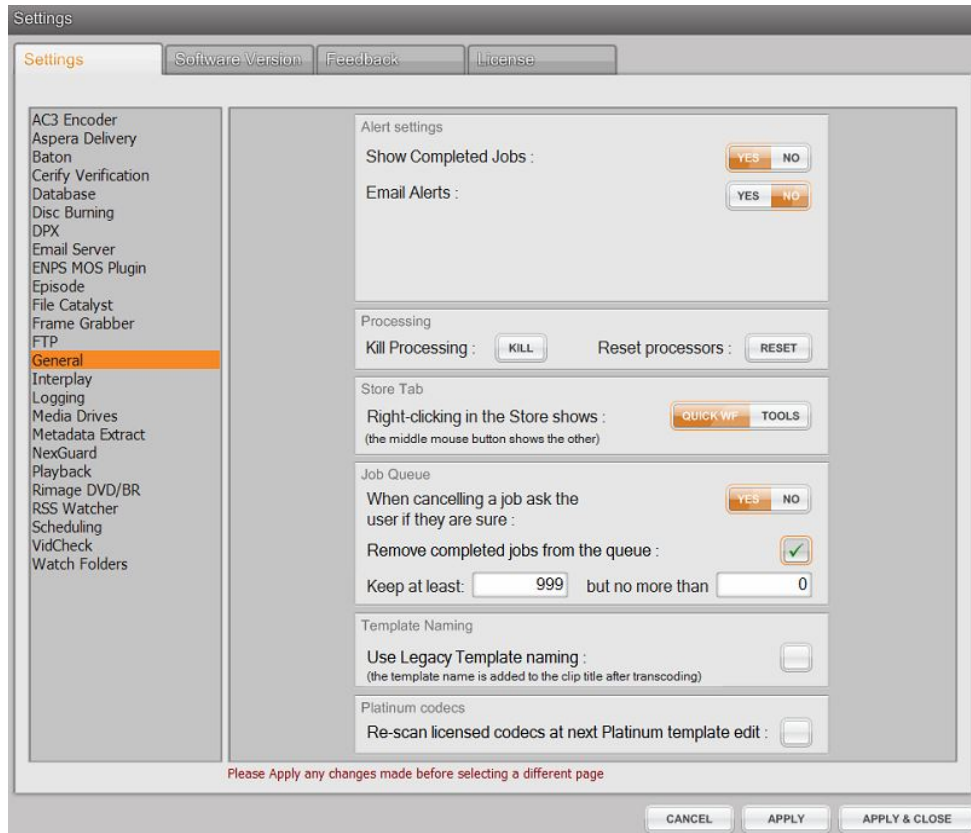
Figure 3 - Settings

To *save any changes, you must click on Apply before you move to a different option or leave the Settings menu*

Date & Time — click on the icon and set the correct date and local time parameters.

Email Server — Enter your email server's address, port, and any required authentication details

Keyboard — Check the keyboard settings for local requirements.

Media Drives — YOU MUST CONFIGURE AN APPROPRIATE MEDIA POOL.

ContentAgent needs a designated folder location as a rendering drive, used for media creation during transcoding processes. It is recommended that this either exists locally, or is connected via a high-speed connection to ensure fast transcoding speeds.

If you are using both ContentAgent and a remote JobAgent System, this should be a location that is accessible to both systems, as the same location. For example, if your Media Pool is F:\CA_Media, then it should be F:\CA_Media on both systems, though only referring to a single location. You can also use a UNC path, e.g. \\SERVER\CA_Media, and access the path directly or by Mapping a Network Drive to this location. If the latter method is used, ensure that this location has been mounted with the same driver letter on all ContentAgent/JobAgent systems.

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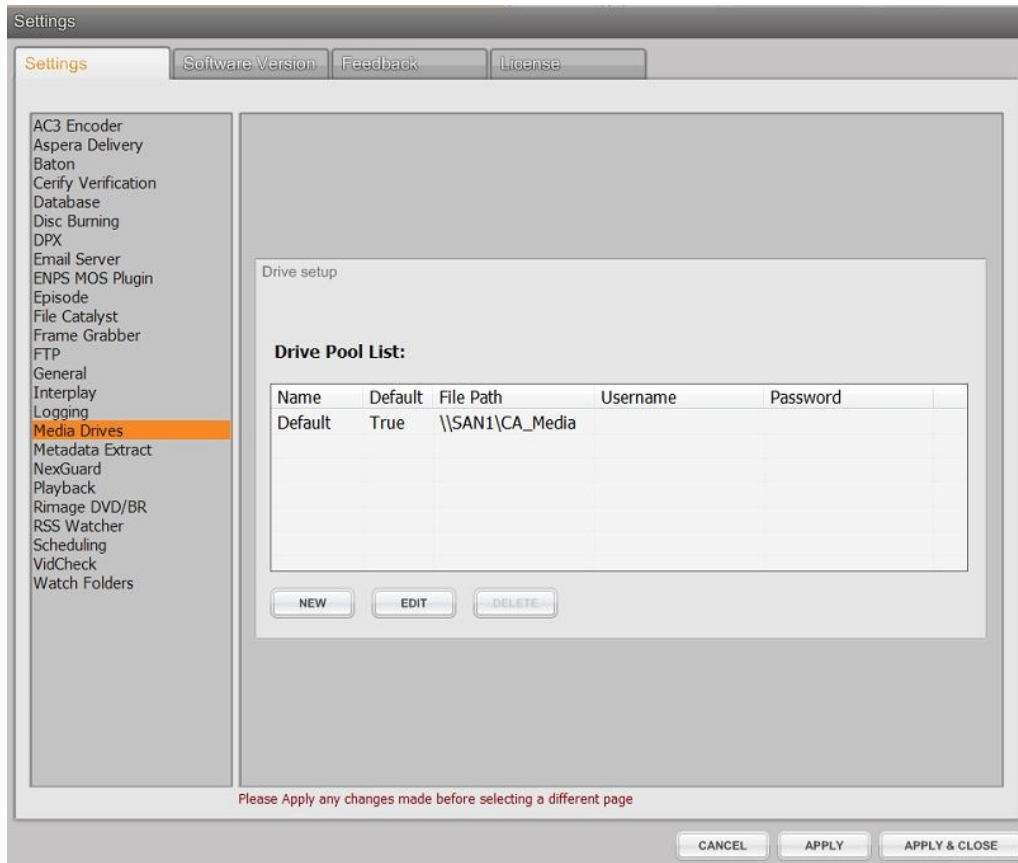
Figure 4 - Configuring the Media Pool

1. Select the first (Default) entry
2. Click EDIT
3. Enter your preferred path/volume. Click OK.
4. When prompted to rebuild media databases, click YES
5. APPLY & CLOSE
6. Do a FULL SHUTDOWN, and re-launch ContentAgent from the desktop icon.

See section 1.4.2 for an alternate means of managing your media drives.

1.3 Media Organization

ContentAgent's wide-ranging capability for video transcoding may be what first attracted you to the software. However, lying below the surface is a comprehensive data and media management toolset.

At the heart of the ContentAgent system is a robust industry standard SQL relational database that provides logical and efficient media organization. A number of 'authorized' users effectively forms the top level of this database. Each user has a unique user name (usually their email address) and password plus, more importantly, their own set of media files.

This enables each user to log in for their daily tasks, knowing that their managed media folders will not be clogged with other users' files. Also having a level of security (which can be bypassed if required) is useful, particularly in a large facility where only specific members of staff may be allocated to use ContentAgent's comprehensive facilities.

The top level of managed media storage for each user is the **Store.** By default, the window shown below is presented after a successful login. Initially, your **Store** will look as empty as that shown below but once you become familiar with ContentAgent's potential, it will soon be brimming clips, templates and workflows!

1.4 ContentAgent Architecture

It is important to understand how ContentAgent deals with its workload *internally.* Three separate programs are used to cover different aspects of the daily job throughput. This is graphically illustrated when you select the **Jobs** tab (top of the screen):
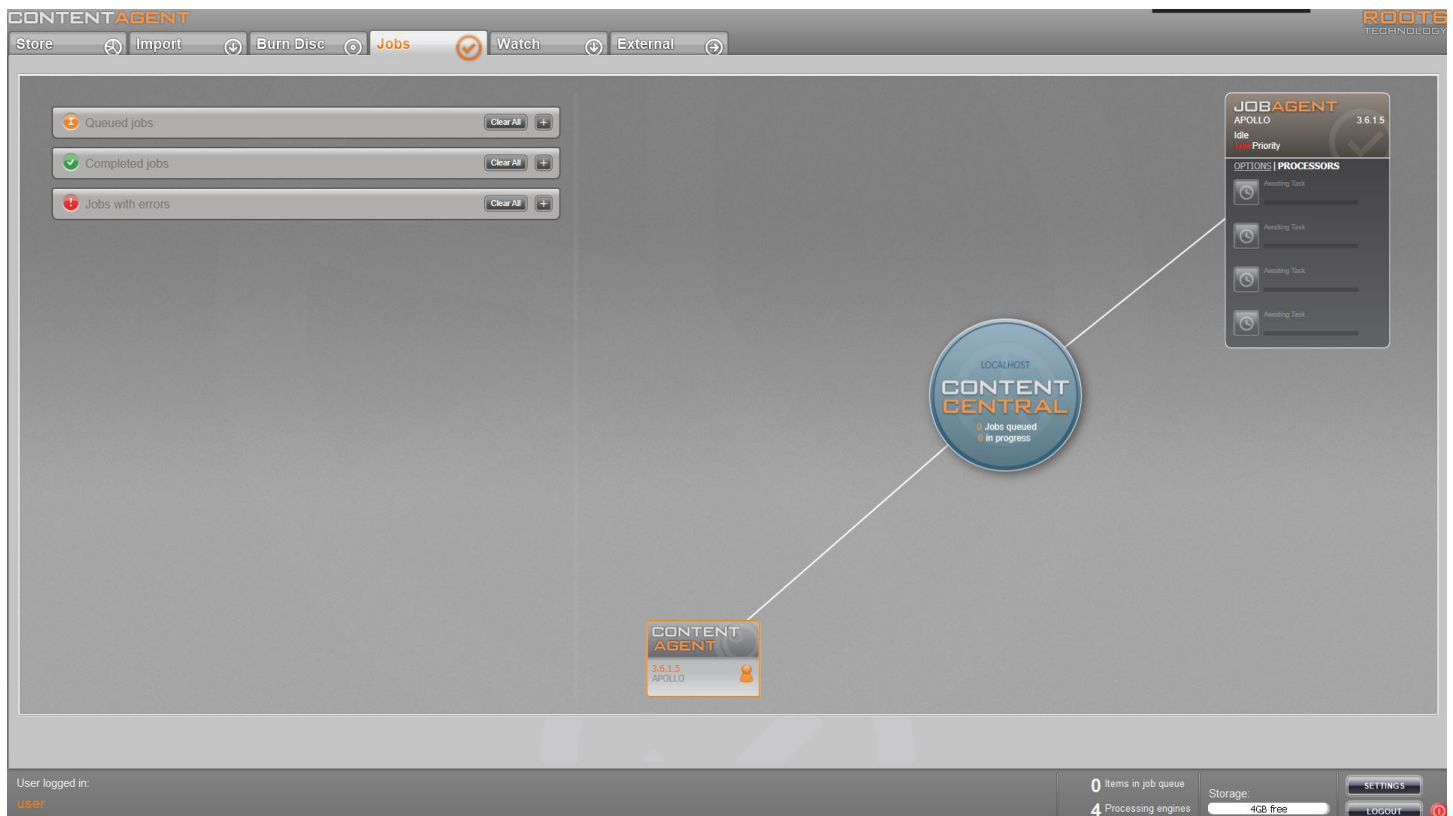
Figure 5 - Jobs Tab

In the right hand half of the screen you will see a central 'hub' and at least two other 'panels'. The panel bearing the familiar **ContentAgent** logo represents the programme that provides your user interface, i.e. the screens, their tabs, pop-ups etc.

When you submit a job (workflow), the central hub — **ContentCentral** — handles job management tasks and sets up jobs in a 'job queue'; note the indication of **Jobs queued** and **In progress.**

The **JobAgent** panel represents the programme that provides the 'engines' to carry out the actual processes (jobs) that you have requested. Information available via this panel includes the number of 'Job Engines' available, and their status. Once the system is busy processing jobs, this panel will come alive.

Note that the panels are connected to the hub by a white line, indicating the network structure. If you have additional JobAgents in your ContentAgent network, they will be represented here too, linked to **ContentCentral.**

To the left of the screen is an area that provides feedback on jobs, whether they are in queue, have completed successfully, or have been terminated because of some error.

Note that, when you boot up ContentAgent, ContentCentral and JobAgent will also start up automatically. Once up and running with a fully commissioned system, ContentAgent is the only program that you are likely to be aware of.

1.4.1 JobAgent

As mentioned above, JobAgent is responsible for all ContentAgent processing.

JobAgent runs as a process, visible in your Windows System Tray:

Figure 6 - JobAgent process

Right-clicking this icon gives a few useful options:

- **Re-register Codecs**
  Confirms that all required files are correctly registered for proper encoding and decoding of media. It will also register those found to be incorrectly configured.

- **Register AC-3 encoder**
  If you have purchased the Dolby Digital AC-3 encoding option, this will allow you to enter a provided registration key.

- **Stop**
  Stops processing of all jobs

- **Cancel Jobs and Restart**
  Cancels all jobs and restarts the JobAgent.exe process. Note: this mechanism should only be used when standard methods are non-responsive, and should be treated as a last resort.

- **Exit**
  Closes JobAgent. Jobs will not process locally until JobAgent is launched again.

JobAgent is capable of performing up to 4 tasks simultaneously. These tasks are grouped into the following categories:

Transcode
Includes any transcode or rewrap job (e.g. Platinum, ReMultiplexor, OpAtom MXF Wrapper)

Move In
Includes tasks such as import, Link to Clip

Move Out
Includes tasks such as Network Copier, Interplay Check-In, FTP

Transform
Includes tasks such as Metadata Extract, Metadata Injection

1.4.1.1 Configuring Processing Engines

In the JOBS tab, you will see a JobAgent panel for each of your connected JobAgent systems.

Each of these panels has four virtual processing engines available, each represented by a progress bar.

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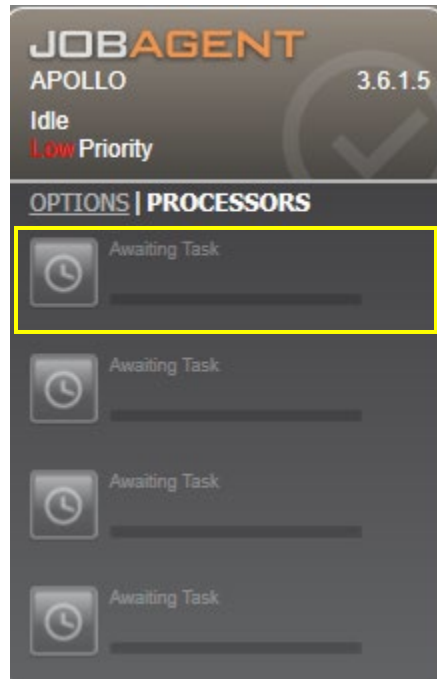
Figure 7 - JobAgent panel

Each processing engine can be configured to perform specific tasks. Click a progress bar to configure its capabilities. For example, if you want four simultaneous transcodes, click each of the four progress bars and tick the 'Transcode' box.
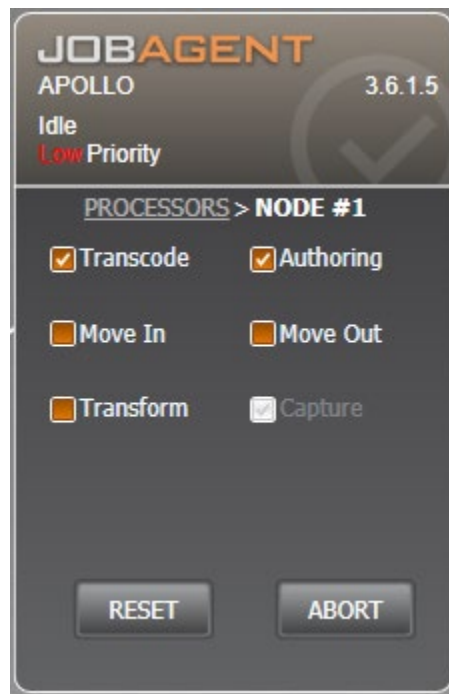
Figure 8 - JobAgent processor config

Click RESET to set the specific processing engine back to default tasks, and click ABORT to cancel the job that it's currently processing

The number of available processing engines is represented at the bottom of the ContentAgent UI. These will normally be in multiples of 4, with 4 being the minimum. If you see less than 4 processing engines available, confirm your JobAgent process is correctly running and connected to ContentCentral.
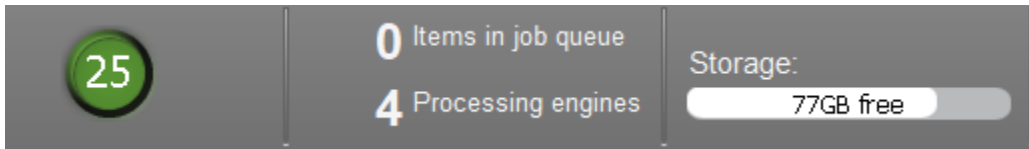
Figure 9 - Available processing engines

1.4.2 ContentCentral

ContentCentral is the hub of your ContentAgent system.

While there are no direct options within the ContentAgent UI, you can access ContentCentral's settings by right clicking the appropriate icon in your Windows System Tray:

Figure 10 - ContentCentral process

Right-clicking this icon gives a few useful options:

- **Show Management Window**

  Opens the ContentCentral Administration tool. See below for further details.

- **Show Console Window**

  Brings up a window displaying, at a technical level, all transactions with ContentCentral. These transactions include submitted workflows, workflow steps, watchfolder information, detailed logging, connection info, and more. This is intended for advanced users familiar with ContentAgent processes. Tech support personnel may request information from this window if advanced troubleshooting is needed.

- **Clear Console Window**

  Closes the above window

- **Exit**

  Closes ContentCentral. Jobs cannot be submitted until ContentCentral is re-launched.

ContentCentral Administration

Select Show Management Window to bring up the ContentCentral Administration window.
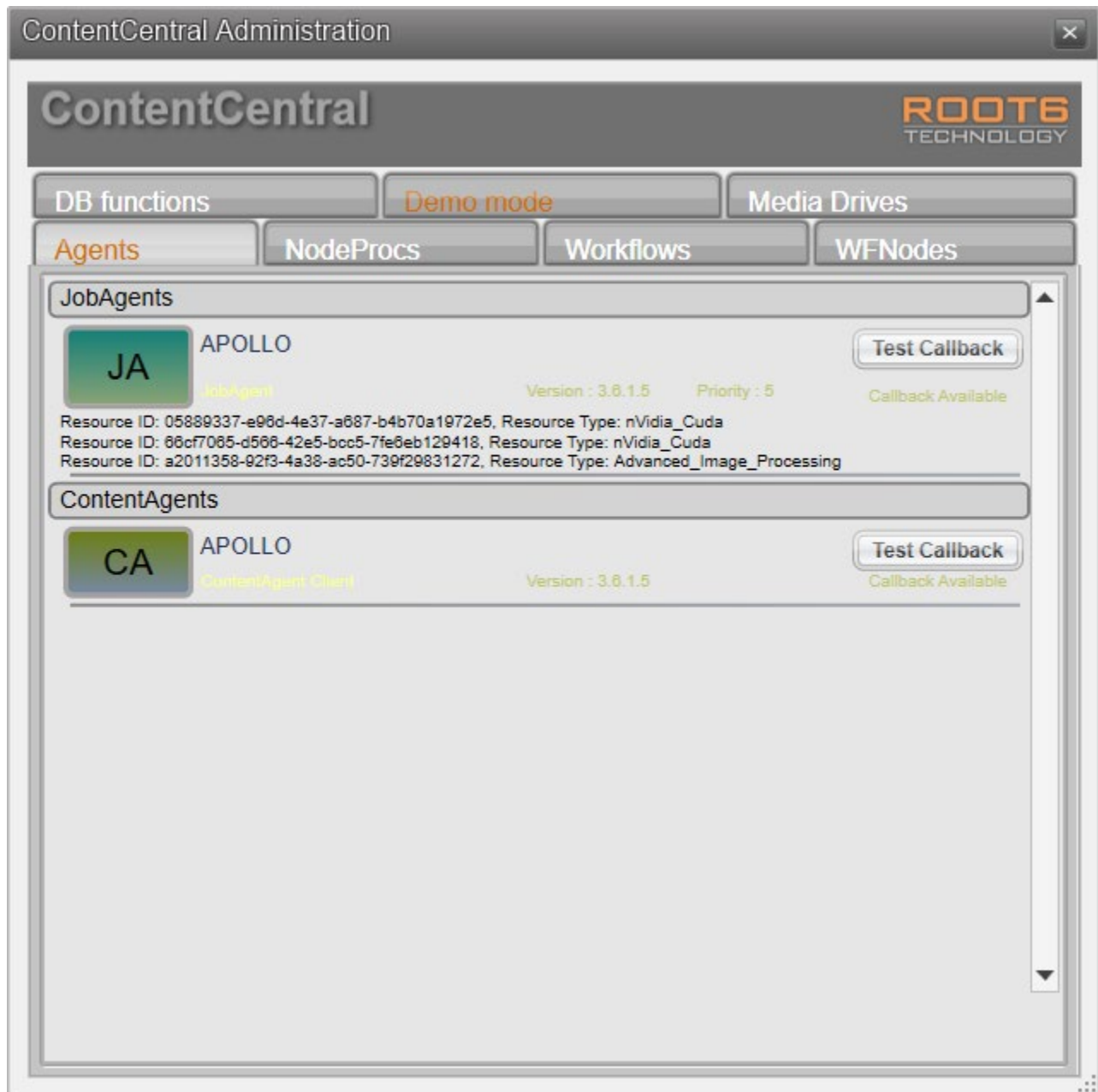
Figure 11 - ContentCentral Administration

This window consists of 7 tabs as follows:

- **Agents**
  Shows all connected 'Agents'. These will consist of any ContentAgent and JobAgent systems that are connected to this ContentCentral system. For JobAgents, any recognized hardware required for specific taks will also be displayed. This includes, for example, hardware required for our Advanced Image Processing option, or R3D decode acceleration.

- **NodeProcs**
  Shows available processing engines. For enginering purposes only.

- **Workflows**
  Shows currently queued workflows. For engineering purposes only.

- **WFNodes**

  Shows workflow steps for any queued workflow. For engineering purposes only.

- **DB Functions**
  - Click CREATE BACKUP to create a current snapshot of your database. Please note, this should only be performed when there are NO JOBS IN THE QUEUE. Once you click this button, you will be prompted to select a backup location. Once chosen, click OK and the backup process will begin. Once completed successfully, a 'Backup completed!!' message will appear in the DB Functions tab.

  - Click RESTORE DATABASE to revert to a backup version of your database. Proceeding with this option will close all ContentAgent processes, including ContentCentral, in order to perform the restoration. . Please note, this should only be performed when there are NO JOBS IN THE QUEUE. Click the RESTORE DATABASE button to browse to a location containing your backup. The default location for this is C:\ProgramData\ROOT6\ContentAgent\Database\Backups, though this may be different depending in your configuration. These are stored as .r6b files. Once you select your backup file, and click OK, ContentCentral will immediately close and you will be prompted to confirm the procedure:

    Click Ok to proceed, or cancel if you've changed your mind. If you click OK, the process will begin and if completed successfully you will have the ability to return to ContentAgent. Click this button to relaunch relevant processes.
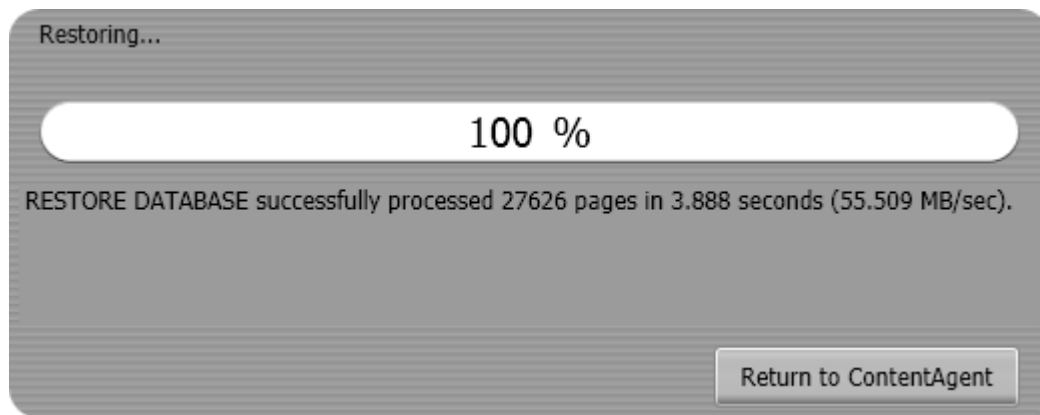
- **Demo Mode**

o If there is a particular option that you do not currently own, but would like to test out, you can enable demo mode of a license here. This will produce watermarked content of jobs using the demo option. Demo mode can be enabled for the following encoders:
  ▪ AVCIntra
  ▪ VC3 (Avid Turbo Pack, includes DNxHR encoding and accelerated DNxHD encoding)
  ▪ ProRes
  ▪ H265

- **Media Drives**

As discussed in Section 1.2, the media pool is an important part of your ContentAgent configuration.
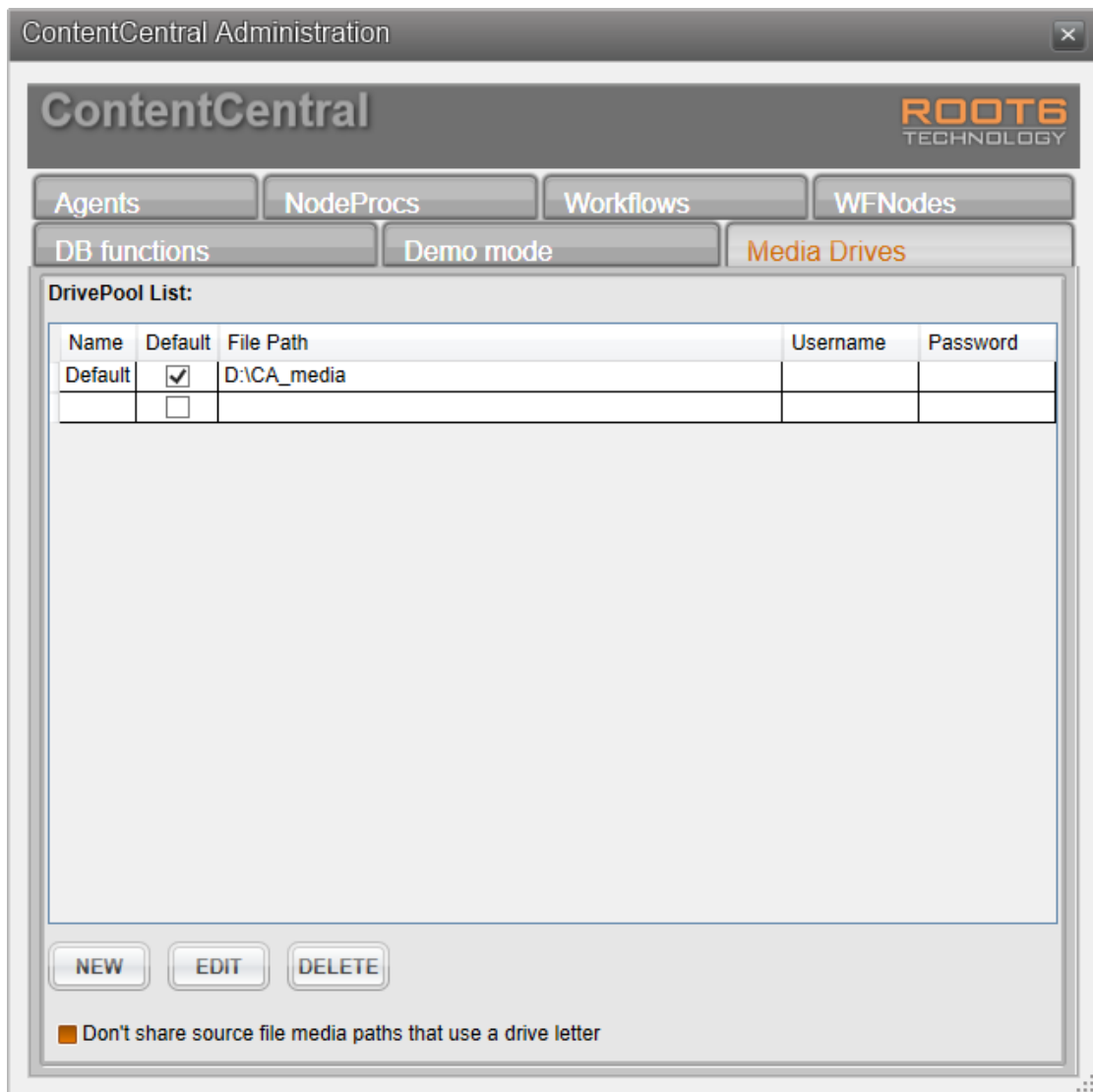
Figure 12 - CC Management - Media Drives

ContentAgent uses a designated folder location as a rendering drive, used for media creation during transcoding processes. It is recommended that this either exists locally, or is accessible via a high-speed connection to ensure fast transcoding speeds.

If you are using both ContentAgent and a remote JobAgent System, this should be a location that is accessible to both systems, as the same location. For example, if your Media Pool is F:\CA_Media, then it should be F:\CA_Media on both systems, though only referring to a single location. You can also use a UNC path, e.g. \\SERVER\CA_Media, and access the path directly or by mapping a Network Drive to this location. If the latter method is used, ensure that this location has been mounted with the same driver letter on all ContentAgent/JobAgent systems.

To edit an existing media pool location:

1. Select the entry
2. Click EDIT
3. Enter your preferred path/volume. Click OK.
4. When prompted to rebuild media databases, click YES
5. APPLY & CLOSE
6. Do a FULL SHUTDOWN, and re-launch ContentAgent from the desktop icon.

To create a new media pool location, click NEW and follow steps 3-6 above. NOTE: designating a specific media pool as DEFAULT means that rendered files and scratch transcoding will be performed on this drive automatically. To use non-default Media Pools within ContentAgent, you must configure templates accordingly. Please refer to section 3.6.1 for further details.

Click 'Don't share source file media paths that use a drive letter' if you media pool configuration involves drive letters that are:
   a) Consistent across JobAgents
   b) Not sharable as a drive letter – this can be the case with certain Storage Area Network configurations

SECTION 2 – The Store Tab

Once clips have been imported (Section 4), the Store tab provides a host of functions designed for comprehensive clip manipulation and efficient management. The tools provided here enable you to set up job-specific 'workflows' to automate a series of tasks such as transcoding and file based QC

When working in ContentAgent, it is almost essential that you create your own 'user' account (see page 2-2), or a 'user' account for the project you are working on, before you import or capture material. This will allow you to keep your work on ContentAgent in a logical and managed state so that, no matter how many clips you have, you will always be able to find them.

Clicking on any folder in the left hand column of the Store reveals the contents of each folder in the scrolling list in the center of the display.
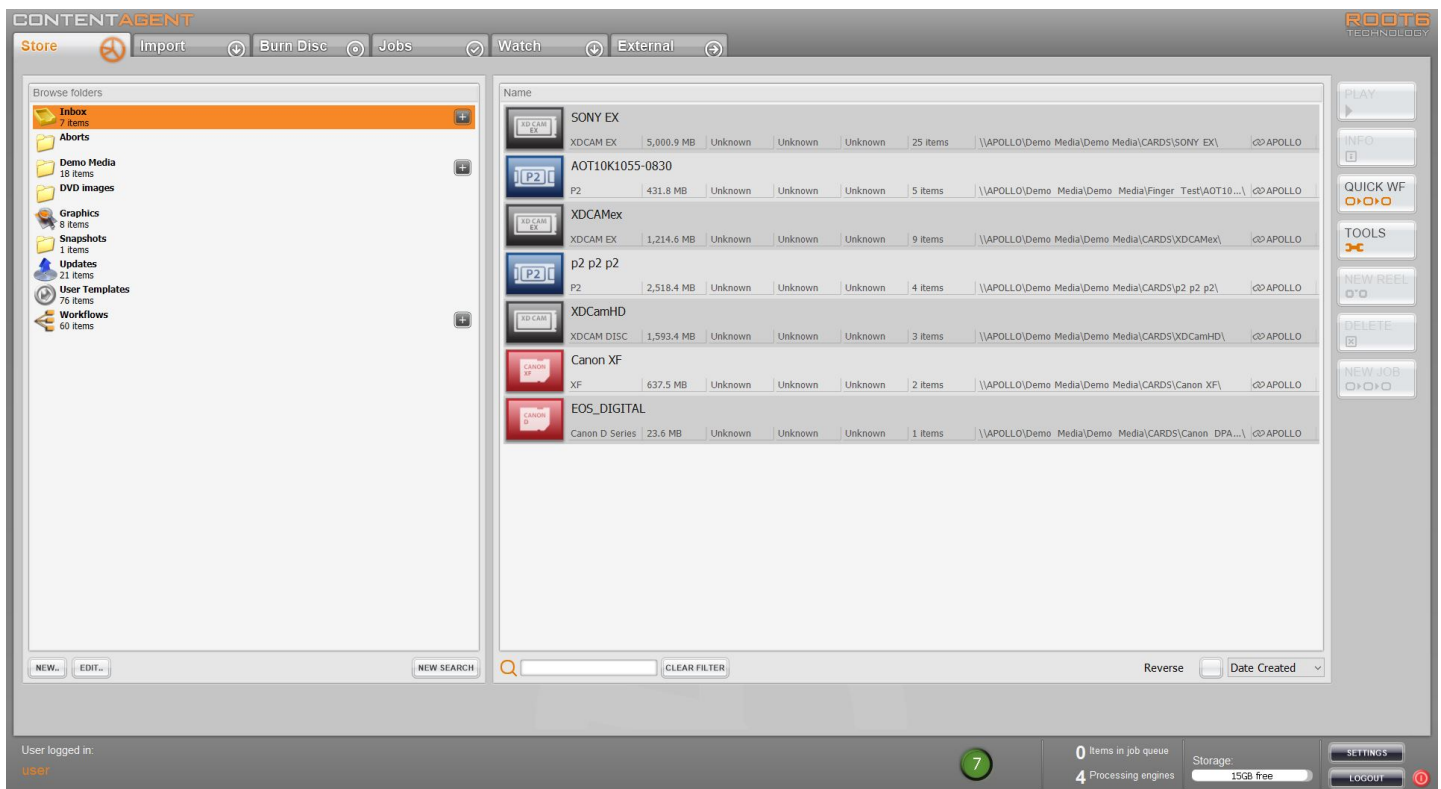
Figure 13 - Store tab

2.1 Users and the Database

Before you get to use the exciting ContentAgent toolset, you will need to understand the principle of ContentAgent's system database and how nominated users relate to it.

All media and data files are stored on ContentAgent's managed media folder. Every file on the managed media folder is logged by the database, as it is imported. These files can then be shared among any number of users, with the database keeping track of their location; regardless of in which users' folders they have been placed. No matter how many times a file is copied, only one version of it remains on the media drive; all versions of a copied file 'point to' the same physical media file.

The database itself is held on a system drive, along with workflows, templates etc. If the file is a video clip, when you play it out, metadata associated with the clip is referenced to its media file, i.e. the actual computer file that plays out. In this way, the system can have multiple file entries without consuming additional disk space. Only when a file is modified or converted will a new version be created.

When ContentAgent is booted up for the first time, two default 'users' are provided: user and admin. The required passwords are the same as the usernames.

2.2 Creating a User

In the lower left of the Store window, click on the Users tab. Note that this will not be present unless you have logged in using the default admin user name, password: admin.

Selecting the Users tab calls up a list of existing users. Click on New User., and a Create a new login pop-up will appear. Enter your email address (the reason for this will become apparent later) and hit OK.

Click on your newly created user entry in the list (selected items are highlighted in blue), and then select the Edit button (on the right of the window). Now enter a password (essential) and other information according to your requirements. Note that the system automatically enters your first name as the start of your email address. Look at the Enabled checkbox on the Edit pop-up; if this is un-checked, this user will not be able to login to ContentAgent until the box is checked again. (You may have already thought of a situation where this little function might come in useful!) Hit OK when done.

User entries can be permanently removed from the list. Select the entry followed by Delete. You will be asked to confirm your actions.

To login for the very first time as a new user, click on the Logout button in the bottom right of the window. This produces the sign-in pop-up. Replace the existing entries with your email address and password, and then hit Login. The window will redraw to show three default Media folders in your Store: Inbox, Graphics and User Templates.

Not surprisingly, all these folders are empty. Don't worry; you'll soon build up your workflows templates and clips.

2.3 User Logins

Once one or more users have been specified, access to the Store's media and data files will only be allowed to those who successfully login using the sign-in pop-up shown below:

This pop-up appears when ContentAgent is first booted up (if the last user has not checked the Autologin box) and subsequently every time you click on the Logout button in the bottom right of the screen. The Autologin function, if checked, automatically bypasses the sign-in pop-up and enters the last user's details, so you can login more rapidly. To log out, click on the Logout button in the bottom right of the screen, and then delete your details from the login pop-up, leaving it ready for the next user.

Note that this pop-up also provides access to the Settings menu (see Section 8) and the ContentAgent shutdown button.

Having successfully logged in, the screen will look similar to this. The left hand side of the window shows all the folders currently present in your Store. If you have just started out, you will only have three default folders. This section tells you how to create different folders, and organize your filing system for more efficient workflow.

2.4 Creating a New Folder

If not already selected, click on the Media tab to display media files and folders:

To create a new folder, click on the New... button at the foot of the media list. This produces the following pop-up:

Enter a Name for your folder and then determine the Type:

A standard Folder will only be available from within your Store.

A Shared Templates folder, as implied, allows the templates put in such a folder to be available to other users. When you go in search of a template (see Section 3), the list of available templates will include 'shared templates' folders, even if they belong to a different user. Note that only templates and workflows can be used with this feature; it cannot be used for clips.

Each folder can have an icon to make it more recognizable in the list. Icons are also useful where you have several folders containing the same types of items. Either pick an icon from the scrolling list of supplied graphics or click on the Pick button to access a list of icons/graphics that have been generated by ContentAgent users.

When you create a new folder, you can make it the 'child' of an existing folder. Select Assign Parent and choose a folder from the resultant pop-up. Note that this is not the only way to have nested folders — see below.

Finally, hit OK and your new folder will be added to the list.

If you ever need to modify the attributes of a folder, select it and then click on Edit., at the foot of the folders list. This calls up a pop-up similar to that used in the creation of a new folder; simply modify the details and click OK. Folders may also be deleted on the Edit., pop-up by selecting Delete Folder (surprise, surprise!). You will be warned you are about to delete a whole bunch of useful stuff; make sure you mean it

2.5 Reorganizing Files and Folders

Reorganizing files on ContentAgent is a breeze. An intuitive drag 'n' drop routine is available for any file type in the Store. Note that, when you use this facility you are moving files from one folder to another. To copy a file using this method you must first duplicate that file

With the contents of a source folder (such as the Inbox) displayed, simply select the required file(s) and drag it to the left until your mouse is over the destination folder. Release the mouse button and note that the item count for that folder increases. As usual, multiple sequential clips can be selected by holding down the keyboard Shift key; select multiple non-sequential clips by holding down the Control key.

To drag items to a nested folder, first 'expose' that folder by clicking on its icon.

2.6 Importing Files and Folders from Windows

You can also copy files and folders directly from Windows folders directly to ContentAgent's Inbox.

Browse and locate the required Windows file/folder and drag it to the Inbox. If you drop the file/folder on the Inbox icon itself, the item will be copied into the Inbox tree. Alternatively, you can drop the file/folder onto a folder within the Inbox; any pre-existing folder structure will be maintained in ContentAgent.

By default, importing using this method will create a link to the file. To copy locally, hold the shift key while dragging.

2.7 Search Routines

Thanks to ContentAgent's use of a relational database for all files contained on the system's managed media folders, comprehensive search routines are available to enable you to find just the file you want, no matter how deeply it is hidden among the folders in your Store.

Figure 14 - Store tab - Search

First of all, the fast-search facility: As long as you know at least one word of a file's name, simply enter it in the Quick clip title search box below the main Store display window and hit Return/Enter on the keyboard. You only need to enter the minimum information, but the more you can provide, the finer the search will become. The results of your search will be placed in the window above, ready for further manipulation. If no files appear, there is no match for the name you have entered.

There will be times when you need to find a specific file type or range of file types, for example, all available transcode plug-ins. For this, you need a more sophisticated set of search tools than the quick-search facility can

Click on the New Search button at the foot of the folder list. A pop-up will appear, looking remarkably similar to that shown below:

First, enter a Search Folder Name; the benefit of this will come apparent later. A range of different filters is available to help refine the search down to the essential details. You may enter part or the entire name of the item you are seeking. If that is not known, use the Filter by Store Type. Depending on your selection, further search criteria will be presented. You may also filter by Folder location. Finally, you can choose to sort the results by Title (name) or Date Created in ascending or Descending order.

When you hit OK, any files that match your search will be placed in a search folder (bearing the name you gave that search) in the currently selected Store folder. Alternatively, select Assign Parent (at the foot of the search pop-up) and pick a different folder.

If you find yourself making the same type of search frequently, you can reuse search criteria simply by selecting a saved search file and clicking on Edit., (below the Store folder list). The New Search pop-up will appear where you may modify the filters or simply hit the OK button. Note that this pop-up provides a Delete Search function for saved searches.

2.8 Manipulating Files

Many different file types are held within ContentAgent's database. Most of them can be modified, depending on requirements, using a variety of specialized tools. A number of file types, particularly those that you will be dealing with on a regular basis, can be manipulated using tools right here in the Store window:

The list shown above can hold any file type according to the folder selected in the window to the left. Once an item in this list has been selected, it may be manipulated using functions in the menu on the right. As you will see later, the tools available via this menu vary according to the type of item selected.

File types can be identified by the icon on the left hand side of their entry in the list; video clips and frame grabs have a thumbnail, other types use a range of self-explanatory icons.

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The list can be sorted using functions below and to the right of the list. Either choose to sort alphabetically (Title) or by the date the file was created (Date Created); check the Reverse box to list in reverse order in either mode. The keyboard's Home and End keys can be used to locate to the start and end respectively of a long list of items (the respective items are selected).

2.9 Video Clips

Video clips are shown in the item list with a thumbnail of frame 40 (or user-selected frame — see page 2-14), the clip name, its video format and file size. Near the center of the file name box, you will see a description of the metadata for that clip (e.g. 320x240 29.97fps Stereo). To the right of each entry line is a video format icon to enable quick recognition of formats in a long list.

To manipulate a clip, first select it by clicking anywhere on that 'line' in the list. To play a clip simply double-click on it, or select it followed by Play (in the top right of the Store window).

If a clip has a black icon with plain text, this indicates that the clip is unplayable. The most likely reasons for this could be: the clip is not a video file, or the specific video codec required for playback has not been loaded into ContentAgent. In this latter case, load the required codec, then select the Update button on the clip Info pop-up (see page 2-14).

2.10 The Player

To play a clip inside ContentAgent highlight the clip and press the Play button, or double-click the clip itself.

Figure 15 - Playback Controller

Simply click on the playing video to bring up the Playback Controller.

On the Playback Controller - The button on the top left can be used to toggle picture size through three options: Native Size, Fit to Screen Retaining Aspect Ratio, and Fit to Screen. With the second button, the Aspect Ratio can be toggled through 16:9 and 4:3. As you toggle through the options, each mode is indicated at the top of the screen.

The buttons on the bottom left of the controller enable you to set a default aspect ratio and aspect ratio mode for playback. A further option sets the playback screen background to red, in cases where frame edges may be difficult to determine on a black background. This is accessed from the Settings Menu.

The 'audio' button enables three levels of audio output to be selected, plus a mute.

Apart from providing an indication of play progress through the clip, the shuttle control can be used to move forwards or backwards through the clip (click and drag) or to locate to a specific spot (just click at the appropriate position).

The frame jog buttons are extremely useful in pause, if you want to grab a particular frame for use as a graphic. To do this, line up the frame and click on the 'camera' button. Each 'snap' is added to the Job queue and, as soon as you exit

the clip playback, the resultant files will be processed and saved in an automatically generated folder called, not surprisingly, Snapshots; the file format is user-selectable. The format can be set in the Settings Menu.

DVD chapter points may be created for individual clips. Each clip is provided with a default Chapter 01 at 00:00:00:00 (see graphic above) that cannot be deleted or modified. To turn the chapter point display on/off, click on the arrow icon to the left of the thumbnail frame at the right of the controller (see above). Use the up/down arrows to the right of the chapter point timecode list to scroll through a large number of points.

Additional chapter points may be easily created as a clip plays through by clicking on the 'tick' button to designate the current timecode for each point. To modify a chapter start time, first find the right spot in the clip, select the appropriate chapter point by clicking on it in the list, and then click on the 'update' button (circular arrows). To delete a chapter point, select it and hit the 'X' button. To locate the clip to a chapter start point, select that entry and hit the 'go to' button (right facing arrow). Additional facilities for chapter points are available via the Edit Chapters facility on the Info display.

You can Trim a clip by selecting a Mark In and Mark Out point. Once you exit playback, the clip will have a "Trimmed" in the Store tab. The In and Out Marks will be obeyed when transcoding the clip. To remove the trim points use the Remove buttons on the Player Controller or highlight the clip in the Store tab, click on the Info button and click on the clear Trim buttons.

To stop playback and return to the Store, hit the 'stop' button annotated in the illustration above, or hit the keyboard Esc key. The playback controller will clear automatically when the end of a clip is reached.

2.11 Info

With a video clip selected, clicking on Info (on the right of the Store window) brings up a stack of useful information about that clip, based on a number of tabbed panes set within the Info pop-up.

If a Camera Card structure is selected rather than an individual video clip, by clicking Info you will be presented with the Media Card properties window. Here, you can Play individual clips from the card, choose whether or not clip spans should be maintained during transcode/rewrap, view clip and card information, reveal the source location of the structure and extract individual clips, from the card, to the Store. Click View Metadata to be presented with the standard Clip Properties window for the highlighted clip.

2.11.1 Properties Tab

Several fields, including the Title of the clip, can be altered on this tab. Select the required Playback Aspect ratio for playback from 1:1, 4:3 or 16:9. The Quick Clip Info panel provides detailed information on the selected clip; hit Update to ensure you have the latest version of clip info and metadata (see below).

The Clip Frame # determines which frame of the clip will be used for its thumbnail in the clip list and playback controller. Hit Update to save the new value.

Read Field Order starts a workflow to analyze the field order of the selected clip, i.e. whether it is upper-field first, lower-field first or progressive. The information thus generated is added to the clip metadata; note that this analysis may take some time to complete on large clips.

The function of the File Location box should be obvious; select Reveal file, to display the actual location of that file on the media disks. If the File Location box states that the file is...in managed storage on drive x, then you can be sure that the file is stored on a ContentAgent media drive, not on an external server. If the file is 'linked' to an external server, the text will read 'linked filename':\\Servername\DirectoryName, to indicate the location of the file.

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Edit Chapters. Enables existing DVD chapters (and AS-11 DPP segmentation timecodes) to be modified, and new chapters to be created:

Each clip is provided with a default Chapter 01 at 00:00:00:00 that cannot be deleted; it may, however be named. To name a chapter point, first select it in the list and then enter a name in the Caption: box; timecode values can be adjusted using the Timecode: box. Hit Return on the keyboard to enter the new data or simply select a new chapter point. Note that the ability to name chapters is currently provided for user-convenience only; the names are not carried over to the DVD authoring process.

To create new chapters from this display, click on the New button. Enter the required timecode value on the timecode calculator and hit Close.

Facilities are also provided to Import chapter points from a log file. This should be a simple .txt file, created on a PC, containing a list of timecodes, one on each line, which define the required chapter points. Names can be added by adding a ',' after the timecode, followed by the name. If you enter the tag [TAPETC] in the log file, any timecodes after this tag will be assumed relevant to the actual source tape timecode of the clip, as opposed to being offsets from 00:00:00:00.

Frame grabs of all the chapter points can be saved in the Snapshots folder (Grab).

Facilities are provided, in the lower half of the DVD Chapters Editor pop-up, to generate chapter points automatically. This can be useful where you want to set up a number of evenly spaced locate or event points. To create chapter points at specific intervals, enter the time interval in the usual format, and hit Create to complete the process. Alternatively, to automatically create a specific number of chapters of equal length, enter the number and hit Create.

Clear chapter list deletes all entries except Chapter 1. Hit OK to save changes and clear the DVD Chapters Editor pop-up.

2.11.2 Folders

The Folders button, at the foot of the Info pop-up, calls up another pop-up that may be familiar if you have been reading this manual from the start. Because of ContentAgent's database file structure, the same file may reside in as many folders as you desire. The Folders pop-up shows where the clip you are examining currently resides; if you want to place a reference to that file in any other folder, select it. Likewise, if no folder is selected here then the media file for that clip may exist on a ContentAgent media disk but there is no reference to it in any folder; refer to the entry under File Location (see previous page). Of course, the comprehensive search facility (see page 2-8) will always find a file in this situation.

2.11.3 Metadata Tab

When metadata is attached to a clip, selecting Info for that clip will provide a Metadata tab at the top of the Info pop-up, which, if selected, displays the full range of metadata information.

The data is split up into logical groups, as indicated by the grey lines. Do not modify the entries in any of these fields unless you have good reason to do so. At the foot of the basic Info tab (Properties), Remove All/Current Page(s) is provided should you wish to strip the clip of all metadata. Remove Group will strip that group of metadata as selected from the drop down menu to the right. Use both with caution.

The Add MetaData Schema, button calls up a list of available metadata schemas that can be added to a clip, should you need this facility.

Import and Export MetaData do exactly as you would expect; in both cases, you will be presented with a folder list to choose the source/destination. Metadata is exported as an XML file for use with management systems. When selected in its destination folder, the XML file may be 'played' to view its contents in an editable text file.

If you export a file using the Network Copier workflow tool (see Section 3), you can elect to copy the file together with its metadata (tick the box for Create xml file of clip metadata in the Network Copy template). Additionally, in the Tools menu (see below), you can create an XML file containing a selected clip's metadata by clicking on Export MetaData as XML. Both these functions will be useful where you need to pass on clip metadata to a further 'external' processor.

With a clip selected, clicking on the Tools button produces a range of useful functions (see left). Note that, once selected, the Tools menu can be dragged to any convenient position in the Store window. To clear the Tools menu from the screen, click on the Tools button again; alternatively, right-click on the Tools menu to clear it.

2.12 Tools Menu

The tools menu allow access to a number of important functions. Click the TOOLS button on the right hand side of the Store tab to bring up the menu.   The following functions are then available:

2.12.1 Create Workflow

Opens the Workflow Designer, providing a blank canvas for you to start building a new workflow. See Section 3 for further details.

2.12.3 Create Template

Open the template creation dialogue, allowing you to create a new template for one of ContentAgent's several available functions. See Section 3 for further details.

2.12.4 Create Graphic

Opens the ContentAgent Graphics Editor, allowing you to create a new vector-based graphic for use within a ContentAgent template. It can be used within Platinum's Watermark tab, Reels, or as a DVD menu background.

Note that you can select a SD or HD format for your graphic in the bottom left of the window; make this selection before you create a graphic. Show Grid provides a momentary reference to the 'safe' area of your graphic, which is guaranteed to be visible on all video monitors.

If you want to base your graphic on an existing image, select New Image. Otherwise, select New Text or New Rectangle.
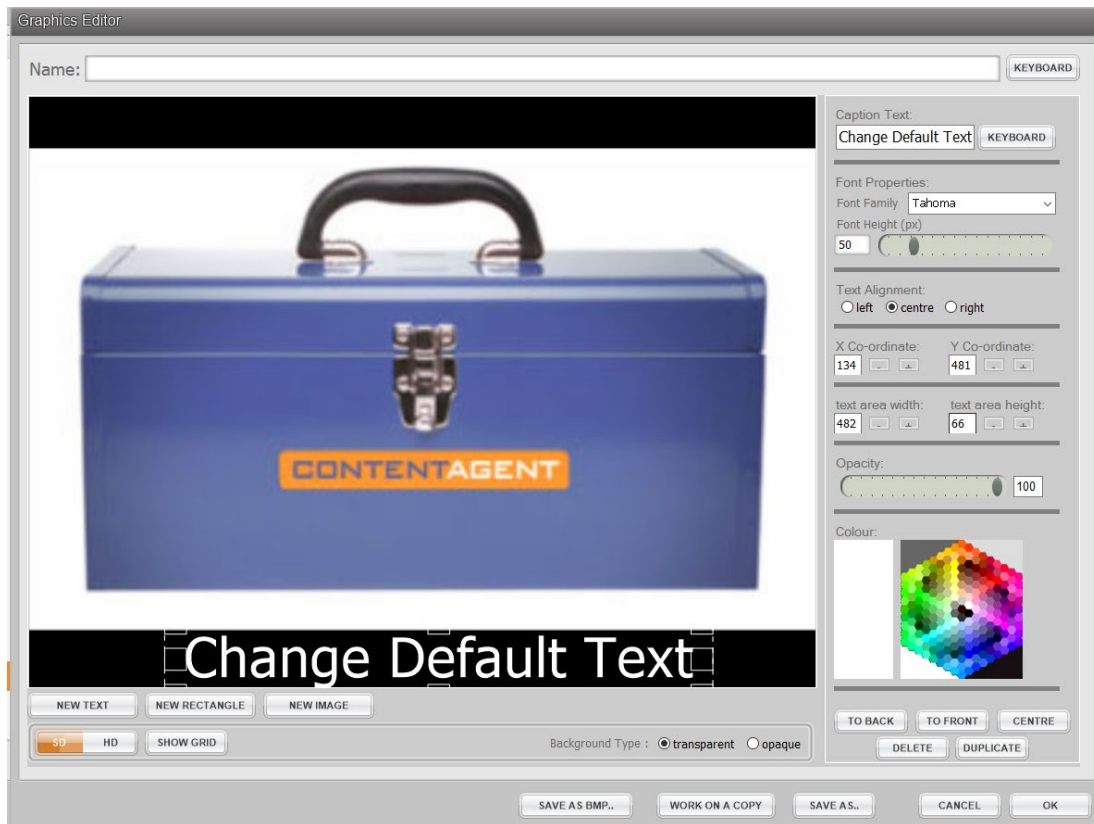
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Figure 16 - Graphics Editor

Even if you have never played with a vector-drawing package before, you will find this tool is a breeze to use!

Click on a rectangle or text box to drag it to a new position. As you do so, appropriate tools for further modification appear on the right. Enter text via the Caption Text box in the top right of the display; hit Enter to place it in the graphic window.

When finished, hit OK, and you will be offered a choice of existing folders into which you can save the graphic. Select a folder and hit OK. Alternatively, if you are modifying an existing graphic and want to retain the original, select Save As to save the new graphic to any destination, under a different name. Use Save as BMP, if you want to export the graphic as a bitmap file.

2.12.5 Duplicate Item
Duplicate immediately copies the currently selected item and places the copy in the same folder, with its name suffixed (copy). Note that, for clips, the actual media file is not duplicated — a new clip referencing the same media file is created.

2.12.6 Export MetaData as XML
Creates an editable XML file containing the metadata associated with a selected file and provides a shortcut to this process without having to select the clip Info pop-up.

2.12.7 Export Selected Folder
This takes all the items in the selected folder and saves them into a single 'Exported Folder' in the same folder as the source files. This folder can then be exported to, and imported from, other ContentAgent systems. Having imported an 'export clip' to the required folder, double click on it to extract its contents into a new folder within the folder you have selected. Note that any underlying media files will not be contained within the export, only clips references.

2.12.8 Set Containing Folder

This allows you to move a clip or clips (or any other items including reels) to a new folder, or multiple folders, with a few clicks of the mouse. Select the item(s) you want to move, click on Set Containing Folder and select the destination folder. Hit OK to complete the move.

To assign an item to more than one folder, click on the Multiple radio button and select the required folders in the resultant window. If you select Set None, the selected item(s) will be removed from all folders. This is not the same as deleting an item, as a record of that item will still be held on the database.

2.12.9 Localise Card/Clip

Selecting this function starts an import process to copy a *linked clip* or *linked card* into the Media Pool location.

2.12.10 Copy to Another User

Clips are normally unique to each user, unless the same clip has been imported by multiple users. This tool enables you to quickly copy a selected clip or clips (this includes workflows and templates) to another user's Inbox. The tedious alternative to this handy feature would be to export a folder and have another user re-import it.

2.12.11 Delete Broken Linked Clips

Use this tool to scan your selected folder for all linked clips, and give you the option to delete those which no longer exist (e.g. those which are indicated as No Media)

2.12.12 Demux MPG/MP4/MXF

This useful function takes a selected MPEG, MPEG4 or MXF file and separates the audio content from the video stream. The resultant elementary stream video and audio files are placed in the same Store folder as the original clip.

2.12.13 Add Timecode Metadata

With a clip selected, this handy tool adds useful timecode metadata (start and end times, TC type etc.) to a clip that has been imported without this useful information. Usually, timecode metadata is only present if you import a source that has timecode, for example, a timecoded QuickTime, R3D etc. Adding metadata allows you to use features that rely on this information, such as the Platinum engine's timecode burning feature (see Section 3), or the creation of an Avid MXF file with timecode metadata carrying over.

2.12.14 Apply Inserts to a Clip

This useful feature allows the user to perform an insert edit within ContentAgent on UK DPP MXF-wrapped AVC-Intra material.

This feature is currently only supported when performing Insert Edits on file encoded and wrapped by ContentAgent's DPP MXF Packager node. Telestream cannot guarantee performance on files created by other means or by other manufacturers' products. If you are new to using this feature, please make a copy of your master file before continuing. Please contact Technical Support (Contacting Telestream) if you are unsure of any required steps or procedures.

Preparing to perform an Insert Edit

If you wish to perform an Insert Edit you should have a complete encoded AS-11 UK DPP file created by ContentAgent's "DPP HD Encoder and Wrapper" node that represents your finished program. This is referred to as your **master file**. If you are new to the feature, you should also create a backup copy of this file at this point.

Typically, you will have made some corrections to your master sequence in your NLE system that you now wish to insert into the, already created, master file. Make these fixes on your timeline and export (with appropriate timecode track) these short fixes between the relevant timecodes, in the format that you would normally export your master sequence

from your NLE. From example, if you edit in Avid Media Composer and normally export a Same as Source QuickTime, you should export the fix using the same settings.

Once you have imported this file into ContentAgent, you should create a small AS-11 file for each of your fixes using the same DPP HD Encoder and Wrapper with the same track configuration as your master file.

Figure 17 - Insert Edit - Prep fix file(s)

You do not need to worry about adding any metadata to the fix files, and you should tick "Don't add DPP metadata (just wrap)", in order that the sequence timecode is preserved from your master sequence.

Matching timecodes between the master file and the fix files

To correctly perform an Insert Edit on your master file at a specified timecode, the start and end timecodes in your fix file must match the in and out points of the Insert Edit on the master file. For example, if you wish to perform a 10 second insert on your master file at 10:30:00:00, the timecode in your fix file must run from 10:30:00:00 to 10:30:10:00. Typically, these timecodes will be directly carried across from your NLE timeline, by virtue of exporting the fix file with the correct timecode track; however it is possible to adjust these timecodes directly within ContentAgent. This step is not necessary if your timecodes already match.

To do this, you should select your fix file within the ContentAgent store, press "Info" to bring up the file metadata, select the metadata tab, and scroll down to the "Tape Source Info" section.
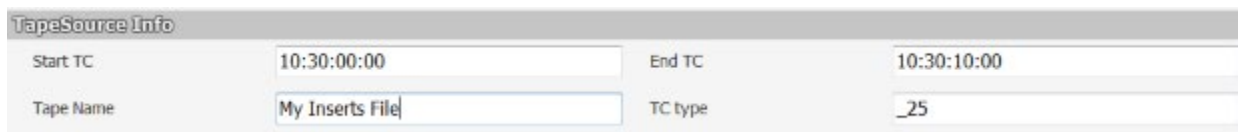

Figure 18 - Insert Edit - Fix file Timecode

The "Start TC" field should be **the in edit point timecode in your master file**. This will insert the first frame of the fix file into the master file at this timecode in the master file. The "End TC" field represents the **out edit point timecode in your master file**. Note that if the duration of the timecode difference is less than that of your fix file, this will truncate the end of your fix file. For example, in this instance if your fix file is 15 seconds long, the above combination will only insert the first 10 seconds of your fix file.

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Performing the Insert Edit

Once you have your master file in the ContentAgent store, accompanied by your fixes, encoded as an AS-11 file and containing the correct timecode, you are ready to perform an Insert Edit.

You should first highlight your **master file** followed by highlighting one or more fix files. You can highlight multiple files by using the CTRL + Click function as you would in Windows.
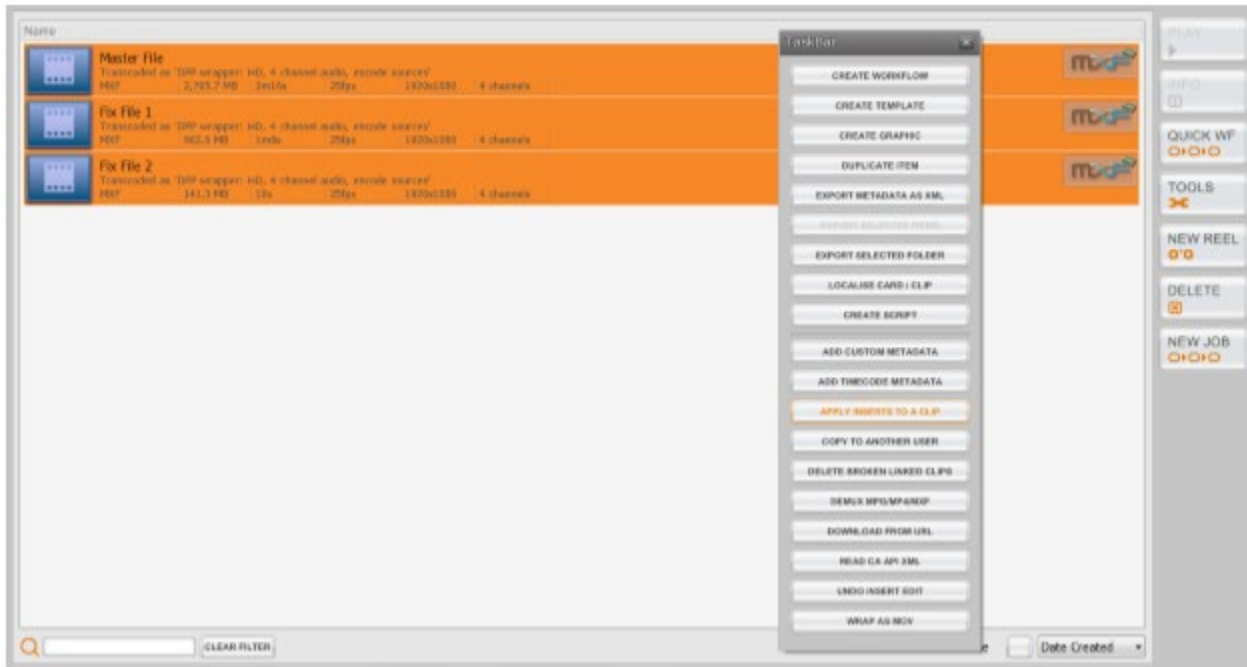

Figure 19 - Insert Edit - Selecting Files

Once you have these selected, clicking TOOLS→APPLY INSERTS TO A CLIP will open the Insert Edit dialogue:
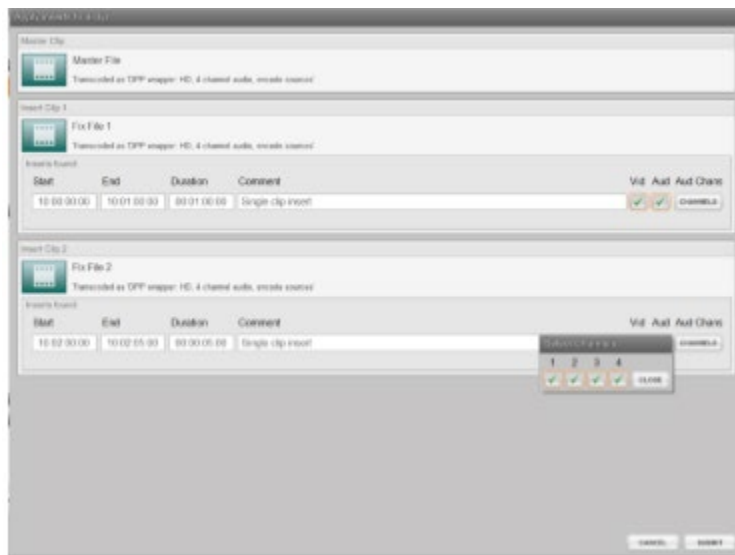

Figure 20 - Insert Edit - Options

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At this point, you should review the timecodes of each fix to check that they are correct. You can also select different track configurations for each fix should you wish to only insert video or specific audio tracks. When you are ready, pressing "Submit" will perform all the inserts in timecode order.

ContentAgent will process all the inserts, and run a metadata extractor step afterward, which you will see in the ContentAgent toolbar. You should let this step complete before opening the master file; this way ContentAgent can complete a database record of your fixes should you wish to undo a fix later.

Once you have completed this step, your master file now contains the fixes and does not need to be re-transcoded, rewrapped, copied, or updated in any other way. It is now ready to distribute.

Telestream always recommends that you visually review the fixes of the master file in both ContentAgent and a third party player, such as VLC or Avid Media Composer, and where possible run an Automated QC check on the master file.

Troubleshooting and FAQs

Why are my fixes taking too long to insert?

Fixes to the master file should be quick to insert and as a rule of thumb should never take longer than 2 minutes to perform. Time taken should also be relatively independent of file length. If this is not the case, you should contact Technical Support (Contacting Telestream). Under certain circumstances, it may take longer to insert individual tracks than all tracks. If this process takes too long, inserting all tracks will produce a quicker insert, but please contact Technical Support for advice.

Does ContentAgent process my essence in any way when performing an insert?

ContentAgent will not perform any manipulation of your essence when performing an insert and the data is copied sample for sample. However, in order to avoid any possible "clipping" when inserting audio fix, ContentAgent will perform a very quick cross-fade on the audio tracks. This is inaudible and should not be detected by the viewer.

2.12.15 Undo Insert Edit

If you have let ContentAgent's "metadata extractor" step complete after performing the inserts as per above, ContentAgent will have logged a record of all the inserts performed on the master clip in its database.

To undo any insert, highlight the master clip and click TOOLS →UNDO INSERT EDIT to bring up the "Undo Insert Edits" dialogue.
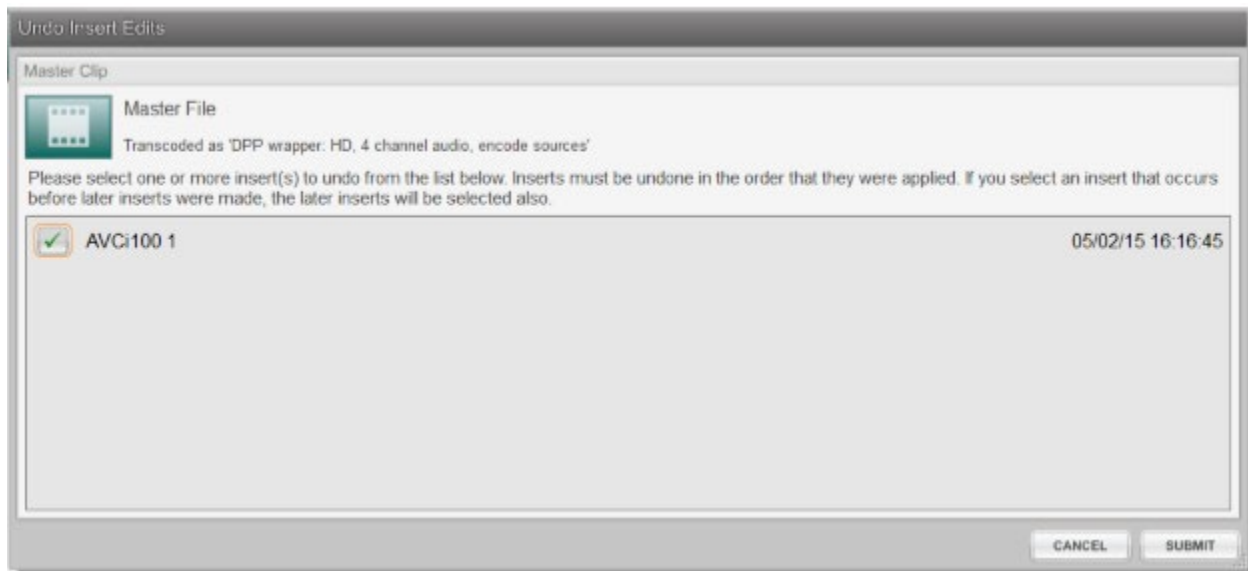
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Figure 21 - Undo Insert Edit

Select the desired inserts to undo, and click submit to perform the function. This is the reverse of the insert and so in the same way the file does not need to be re-transcoded, rewrapped, copied or updated in any other way after performing this. Due diligence should be taken however to review any changes to the master file after performing any modifications.

2.12.16 Download from URL
This tool allows you to enter an HTTP address that points to a file, which is then downloaded to your Media Pool and made available in your Store.

2.12.17 Read CA API xml
This provides a method of submitting an automated job via an XML file. Very useful if you have lots of material on other systems, and want to get it into ContentAgent without too much hassle.

Suitable XML files should specify the required workflow(s) and can contain single clips, a file source or describe a tape reel. The files may be parsed directly using the Read CA API function or by dropping them into a Watch Folder (see page 2-39). Dropping the XML files into a Watch Folder will create jobs in the queue, as long as the specified workflows exist in your database. The source files will be logged as clips, so the workflows should begin with a capture step. Make sure your workflow includes an unconnected store step if you want the generated linked source clip to be saved into the database. Multiple jobs can be described in a single XML file.

For more information about this feature, contact casupport@telestream.net.

2.13 Delete

The Delete function on the right of the Store window does what you might expect, but with some useful restraints.

Use the Delete function with extreme care.

It can, without restraint, delete system-wide instances of a clip or other item.

Select the clip(s) you want to erase, then select Delete and read the information on the pop-up (and below) before hitting OK. You do not get a second chance!

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Check the Delete clip or Delete media file box depending on whether you want to delete the currently selected item(s) only, or all occurrences of this (these) item(s). But first, a few words on clips and media files:

An entry in the Store tab folders (clip, graphic, etc.) corresponds to a database entry where information is stored about individual items. When a clip is duplicated, only the database entry is duplicated; both versions of the clip 'point to' the same physical media file on the hard drive. When you play either clip, metadata associated with the clip is referenced to this media file, the actual computer file that plays out. In this way, the system can have multiple clip entries without using up additional disk space.

Therefore, if you delete a media file, you will be unable to access any of the clips that were referenced to it. However, if you really do want to delete all instances of a clip that has been copied many times, and has been used in several reels, then Delete media file is for you!

When deleting multiple clips, advanced users may be interested in the following: select the clips then press the keyboard Delete key; this calls up the delete pop-up (see above). Press the Delete key again to toggle the required delete clip and/or media file selection. Hit the keyboard Return key to confirm the deletions. Reels may also be deleted using the Delete function. In this case, you will be advised that you will be deleting one reel but multiple media files. See section 2.14 for more on reels.

Note that an accidentally deleted clip can be recovered by selecting View Orphan Media in the Database settings menu.

2.14 Working with multiple clips

Multiple, sequential, clips may be selected from any folder's content list by holding down the keyboard Shift key as you select them; non-sequential items may be selected by holding down the Control key.

Clicking Duplicate, on the right hand side, will make a copy of all the selected clips.

Reels
A reel is a selection of clips which are cut together to create one new clip. As well as video clips, reels can contain still images with fade ins and outs, titles and watermarks.

Creating a New Reel
To create a new reel, select at least one clip (preferably one you want in your reel) and click on the New Reel button on the right of the Store window. This calls up the Clip List pop-up. Note the additional tabs that appear above it:

Before you start compiling the reel, first give it a name in the Title box. To add clips to your new reel, click on the Add... button. This calls up a 'file picker' version of the Store window, where you can select clips, graphics, or even other reels.

To add clips, click on each clip (to select it), and then click on the Pick button to produce a red tick by the names. Multiple, sequential, clips may be selected by holding down the keyboard Shift key; multiple, non-sequential, clips may be selected in conjunction with the keyboard Control key. Note that names or part names can be entered to filter your search, and Title/Date Created can sort clips listed A-Z or reversed.
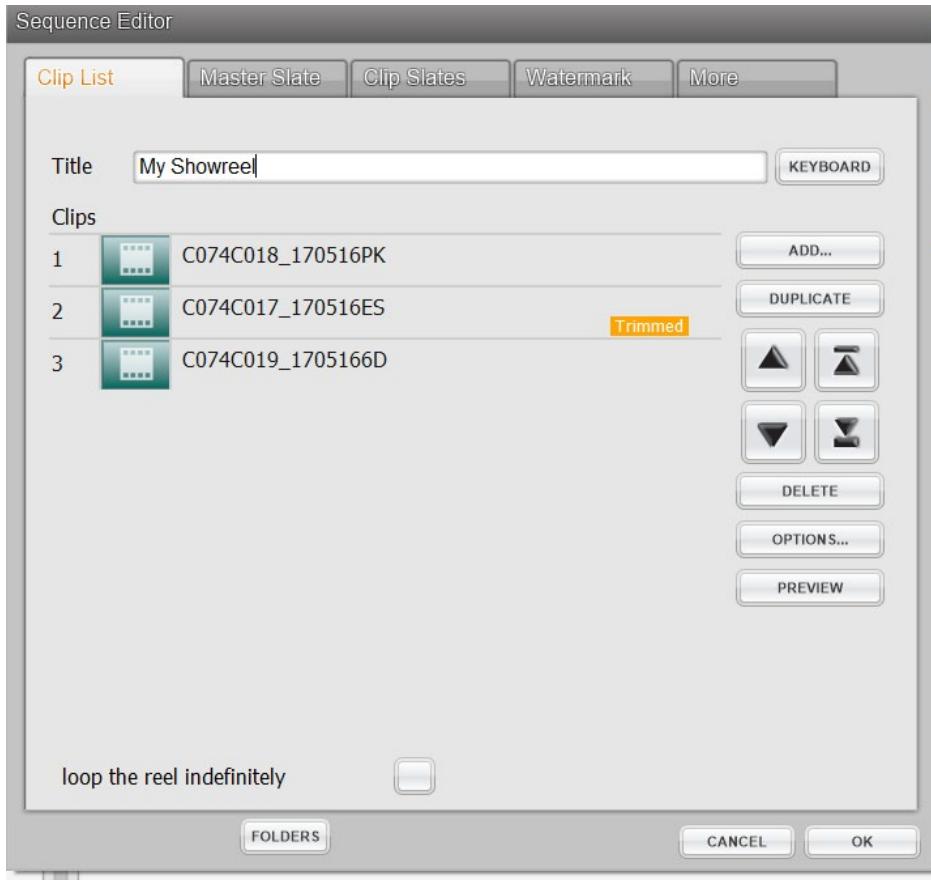
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Figure 22 - New Reel

Existing reels may be picked in the same way, to add all the items in the selected reel to the new reel. Graphics may also be selected here for inclusion in the reel.

Having selected the required number of clips, hit the OK button to return to the Clip List.

If you find you have added an item to the reel by mistake, select it (orange) and use the Delete function. Note that this has immediate effect but only deletes this item from this reel, not from any other location where it may exist.

It is extremely easy to alter the position of items in the list using the cursor keys on the right of the window.

SECTION 3 – Workflows

3.1 Introduction

If you read just a few sections in this manual then Workflows should be one of them. As you become more accustomed to ContentAgent's comprehensive toolset, your understanding will be considerably increased by the implementation of job workflows.

The creation of job-specific workflows is key to the most efficient use of ContentAgent, and will definitely result in faster throughput of work in your facility. Benefits all round!

3.2 Creating a Template

A ContentAgent template represents a single task, which can be run as part of a larger workflow. Whether the task is a transcode, move out, examine metadata or anything else, a template must exist in order to perform the job. The quickest way to create a template is:

1. In the Tools Menu, within the Store tab (see section 2.12 for details if needed), select CREATE TEMPLATE. This will bring up the New Template window.
2. Choose the type of template you want to create from the options on the left. For example, if you want to do a transcode job, choose Platinum Media Engine at the top of the list.
3. Choose a folder on the right in which to save the template – this helps you keep what could be a vast number of templates organized to suit your needs.
4. Click DONE to bring up the relevant template editor window.
5. Once you have configured your template accordingly, click DONE and you will then see your template in the chosen folder within the Store tab.
6. You can then use this template by submitting a simple job, or select it within the Workflow Designer for use as part of a larger series of tasks.

3.3 Submitting a Simple Job

First, select a clip, clips or a reel in the Store followed by the New Job button on the right of the Store window. This brings up the Job Wizard window. If you do not yet have any clips in your store, refer to Section 4 of this manual.

At the top of the Job Wizard window, you will see two options enabling you to submit a Simple Job or to use an existing workflow (Apply Workflow); select Simple Job if not already selected (outlined in green).

In the left of the area below, an 'Activity' from the four graphically illustrated items. Before you choose, toggle from one to the other to see, to the right, the workflow 'nodes' provided for each activity, and a brief description of their function. Note that a unique icon identifies each node; the more you get to use workflows, the more useful these icons will become as a means of choosing the required node from a long list.

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Figure 23 - Job Wizard - Job Type

The most versatile node you see here is the Platinum Media Engine (under Transcode). This transcoding and standards conversion engine is capable of almost any transcoding task you can imagine.

Each node can have a number of different templates assigned to it, with each template determining exactly how that node will operate, according to your particular requirements. There are two distinct types of templates: System Templates and User Templates. System Templates are pre-installed with the system software; User Templates can be created for specific tasks and, for convenience, can be based on existing System Templates. Templates are the building blocks of Job Workflows; having a good selection of customized templates is the key to fast workflow construction.

Simple Workflow Example

As an example of a simple, but typical, workflow, we will assume that you need to transcode a recently imported clip (or clips) into a different format.

Select the **Transcode** 'Activity' followed by **Platinum Media Engine** from the list to the right. Now click on the **Next** button below (or simply double-click on the Platinum Media Engine icon). This takes you to the Pick a Template window. Scroll the list on the left of the window until you find a suitable format, for example QuickTime. Note that you have the option to select from SYSTEM and USER templates at the bottom left
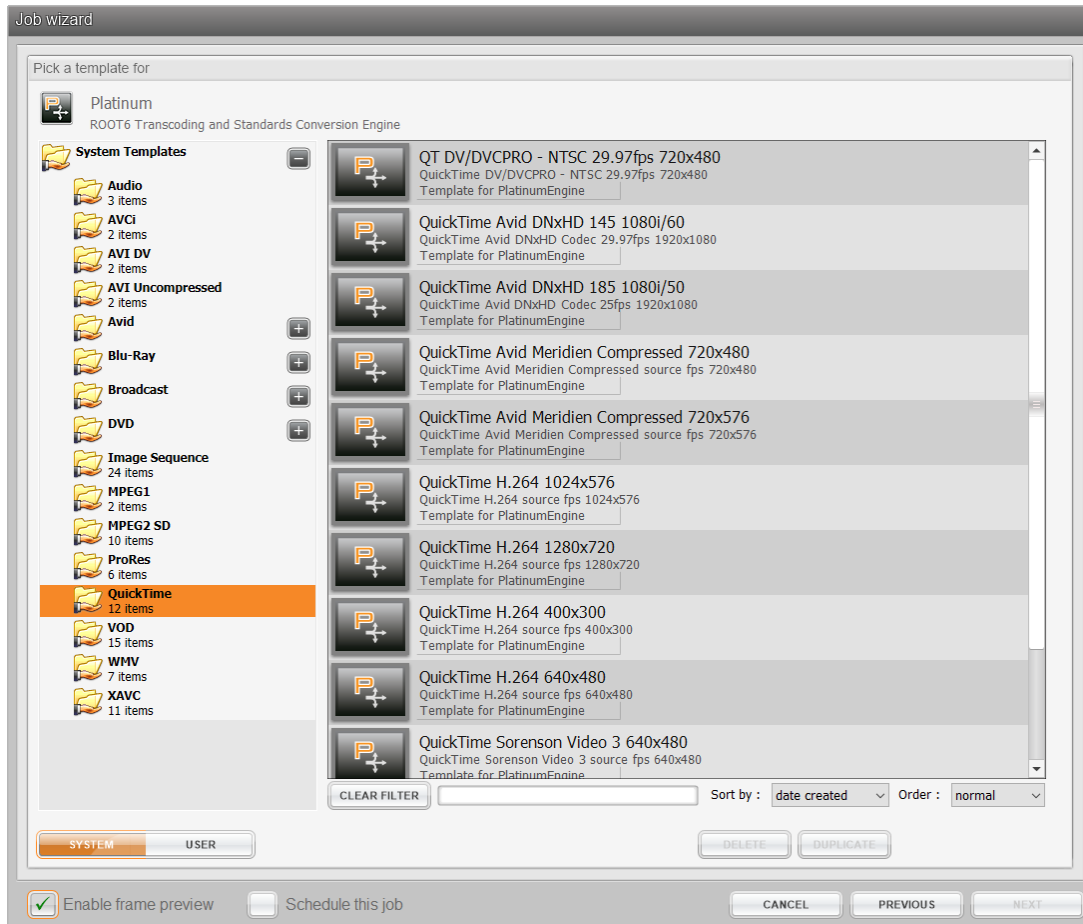
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Figure 24 - Job Wizard - Template Picker

Select this entry and then choose one of the templates from the entries on the right. Double-click on it or select it followed by the Next button.

You will now be asked to pick a folder for the transcoded clip(s). Double-click on the folder or select it and hit Next. This takes you to the Job Summary window:

If the details shown are what you expect then, at this stage, you could now select **Submit Job** and add your workflow to the processing job queue. Note the Enable frame preview box in the bottom left of the New Job pop-up; if you are transcoding video, and this box is checked, a small picture frame, to indicate progress, is provided in the Job Information Bar.

However, since you are probably reading this in order to learn how best to create a useful workflow, click on Edit Workflow. This produces the full-screen Workflow Designer window where you can create and edit workflows using an intuitive graphic interface:

Note the various steps in your workflow from transcode to metadata extraction to frame rip and finally to the Store folder.
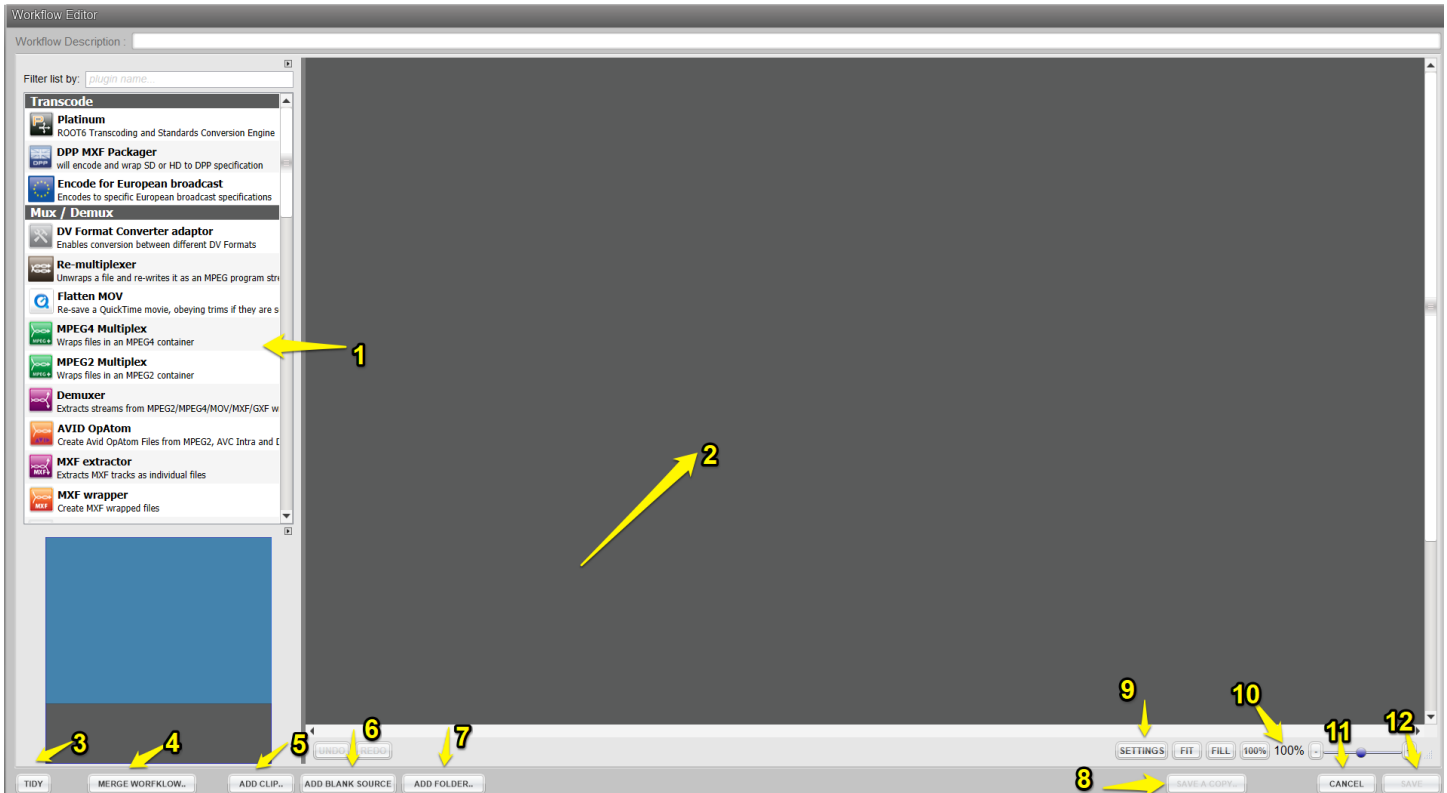
3.4 Workflow Designer

Figure 25 - Workflow Designer

1. **Workflow nodes** – drag from left and drop on the canvas to add to your workflow.
2. **Workflow canvas** – design your workflow here by connecting nodes you have dropped in.
3. **Tidy** – arrange your workflow automatically.
4. **Merge Workflow** – click this button to bring up a picker list, allowing you to merge other workflows into your current project.
5. **Add clip** - click this button to bring up a picker list, allowing you to load media clips into your current project. You can then wire these directly into your input(s).
6. **Add Blank Source** – adds a generic input into the workflow, which you can wire up in order to clarify how the workflow should operate. Also mandatory if using the workflow within a Send To Workflow template.
7. **Add folder** – connects a Store folder to the out of any selected nodes. Alternative to dragging the Store node into your designer, useful if attaching to several outputs.
8. **Save a Copy** – allows you to save out a copy of the workflow in its current state. In addition, if you have multiple nodes selected, you will be presented with the option to save out just the selected nodes, allowing for easy creation of sub workflows.
9. **Settings** – Self-explanatory options here are Snap to Grid, Show Gridlines, and Animate.
10. **Zoom** options.
11. **Cancel** – discards any changes you may have made and closes the workflow designer.
12. **Save** – saves changes and closes the workflow designer.

3.5 Creating a Workflow

1. In the **Store** tab, click on the **WORKFLOWS** folder.
2. On the right hand side, select **TOOLS**->**CREATE WORKFLOW.** This will bring up the Workflow Editor canvas.
3. You will see a variety of NODES on the left hand side, each performing a variety of single or multiple tasks. To use a node in your workflow, either **DRAG & DROP** a selected node to the canvas, or **DOUBLE-CLICK** your desired node. In either case, one of two things will happen:
   a. The node will be directly inserted on to the canvas
   b. A **Template Picker** pop-up will appear. In this case, choose your desired template(s). Double-click for a single template or single click to multi-select and then click **PICK->OK**. If the window is blank, you will simply need to click **NEW TEMPLATE** to create one.
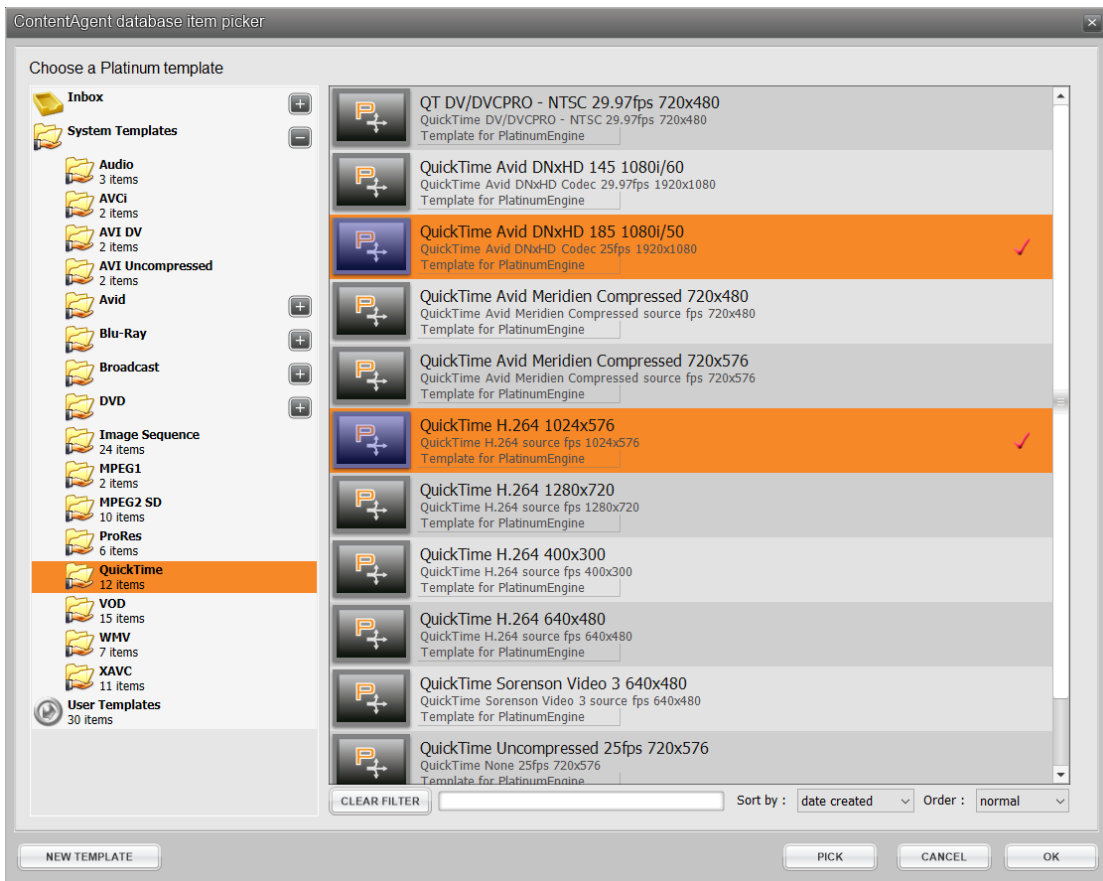
4. You will now see your freely moveable node on the canvas. To make changes to the node properties, simply right-click it and select **Edit Template**.
5. Add a second node, using the same method. You will now have two nodes on the canvas.
6. Join these two nodes together, by either overlaying the **OUTPUT** arm of your first node, over the **INPUT** Arm of the second node, or by dragging a connector from the OUTPUT arm to the INPUT arm.
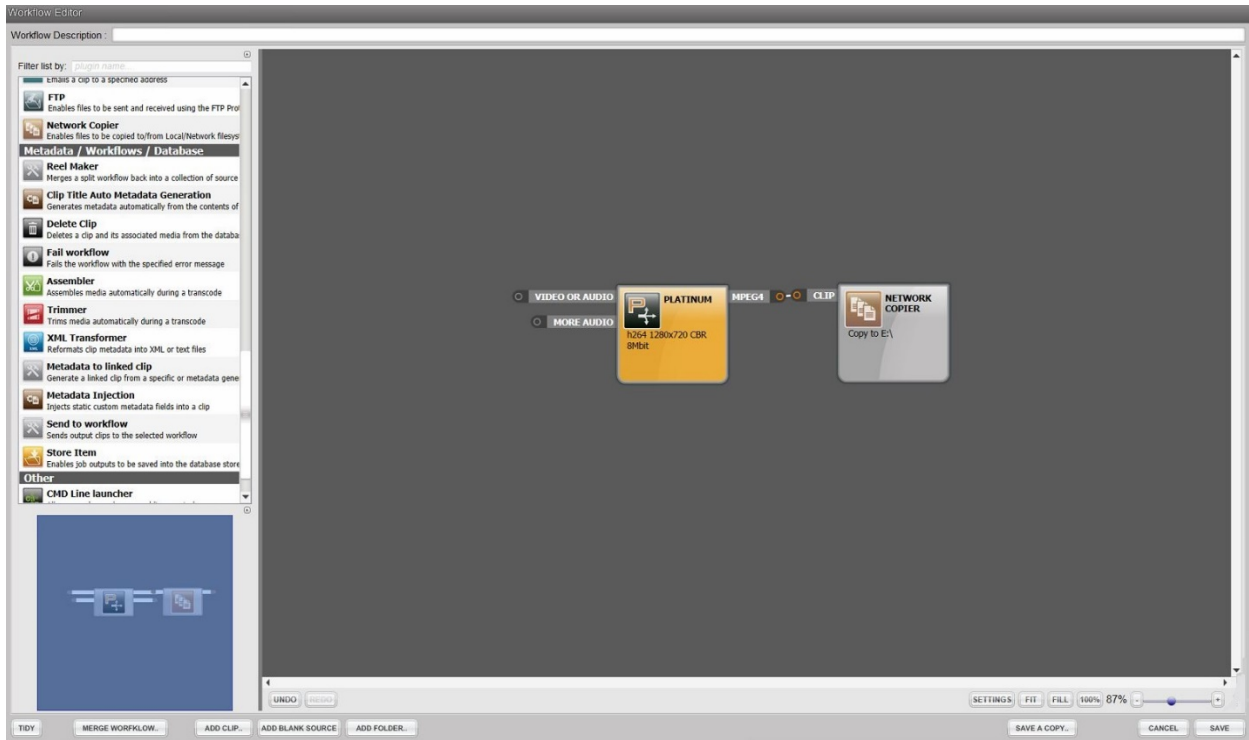
Figure 26 - Simple Workflow

7. At the top of the Workflow Editor, type in a Workflow Description
8. At the bottom right, click SAVE
9. A final popup window will appear, here choose the folder in which you want to save the workflow. The default folder is 'Workflows'. Click **OK**.
10. You have just successfully created your first ContentAgent workflow!
11. You can then submit clips to this workflow in few ways:
    a. Select clips in your Store tab, choose New Job, select APPLY WORKFLOW and choose your workflow.
    b. Via the IMPORT tab (Section 4)
    c. Via Watchfolders (Section 5)

3.6 General

At the bottom of each processor template, you will see three additional tabs giving some advanced options:

3.6.1 Media Location

This may be relevant if you have multiple Media Pools setup in ContentCentral. If so, then use the options here to designate the scratch location for any media created through this template. For example, if you have a Media Pool configured on both your ContentAgent and remote JobAgent, select the 'Prefer Local Media Root' box to force transcodes to use the media drive on the system that is actually doing the work. This can improve performance if network latency is of concern. Note that all systems should have read/write access to every designated media pool. To learn how to create multiple media pools, refer to Section 1 of this manual.

3.6.2 Rename Output

This facility allows you to automatically alter clip names on output. This can be done by manually entering desired text, or by using Metadata Substitutions to populate clip names with useful information.

On the left. Choose which Output name you want to modify. Some templates can have multiple outputs (e.g. Decision), while others will only have a single output (e.g. Metadata Extract).

If you just need to add static text to the clip title, click in the Define <OUTPUT> text box and type in your needed text. Note that the tag <%ClipBase:Title%> represents the original clip name. Only remove this if you want to rename the clip entirely.

If you want to build a custom output file name base on metadata, Click LOAD CLIP METADATA to select a sample clip to use as a baseline; you will then see relevant Metadata Groups to choose from. Then, select your desired Metadata Group to see the available Group fields. Drag and drop specific fields (from the Group Fields area) into the Define <OUTPUT> text box to build your output name format. You will see a preview of the output in the box below.

For example, your source clip name is SHOWREEL. The workflow checks the source size, audio format, and framerate upon transcode, and you want to append this information to the clip title on output. Your variable string should then look like this:

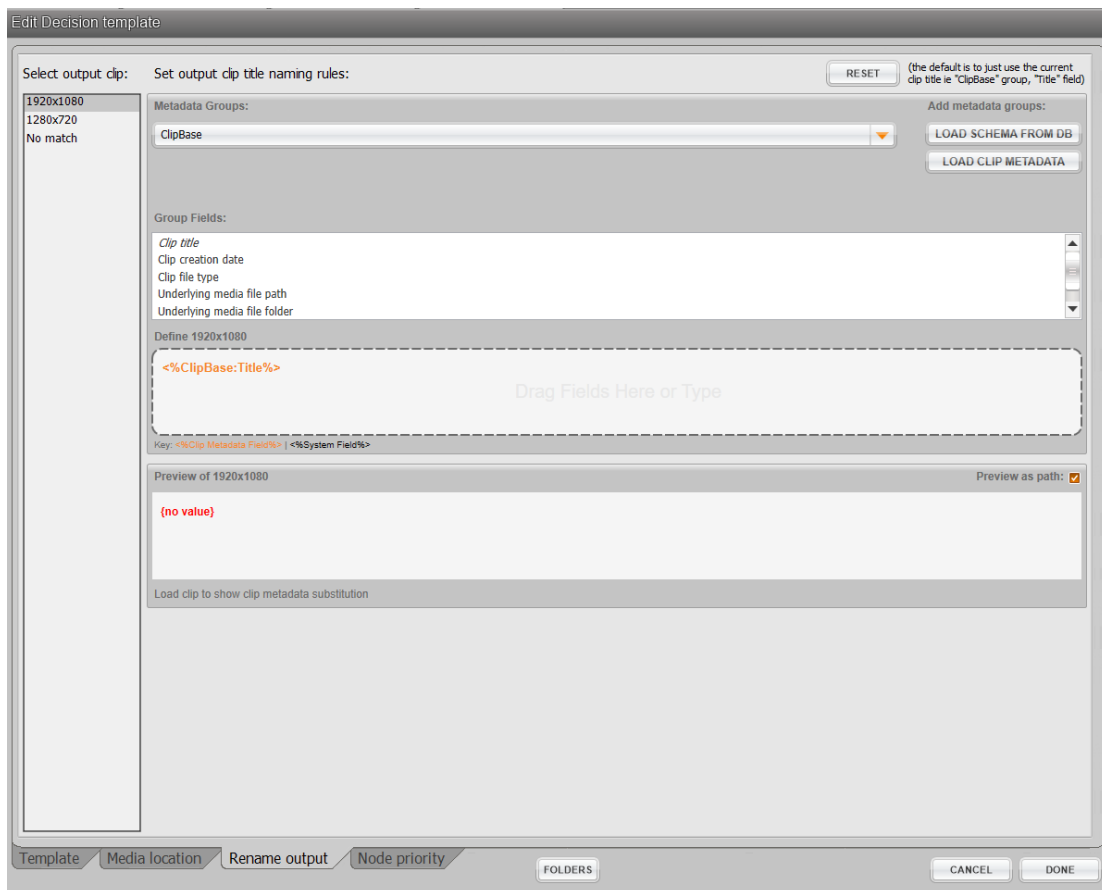<%ClipBase:Title%>_<%Media Info:pixelsize%>_<%Media Info:Audio Channels%>_<%Media Info:averageframerate_float%>

Resulting in: SHOWREEL_1920x1080_Stereo_29_97

Figure 27 - Rename Output

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3.6.3 Node Priority

In the Workflow Designer you can now set a priority for individual nodes in a workflow so that they can be processed in a specific order.

To enable a priority click on the tab at the bottom of a node. Untick the "not set" checkbox.

If a value is set for a node's priority then the node will not run until ALL nodes of higher priority have been run. The bigger the number, the higher the priority. Negative number are allowed to enable a lower priority. If a node's priority is set to "Global" then it will be prioritized irrespective of where it is in the Queue. In the Jobs Tab, the node priority is shown in the tool tip for a workflow node in the Jobs list.

Note - If a node priority is set on a "Send to Workflow" node, it will be copied onto the nodes in the referenced workflow, if a priority has not already been set on that node. Thus, a workflow branch can easily be given a higher priority than another workflow branch.
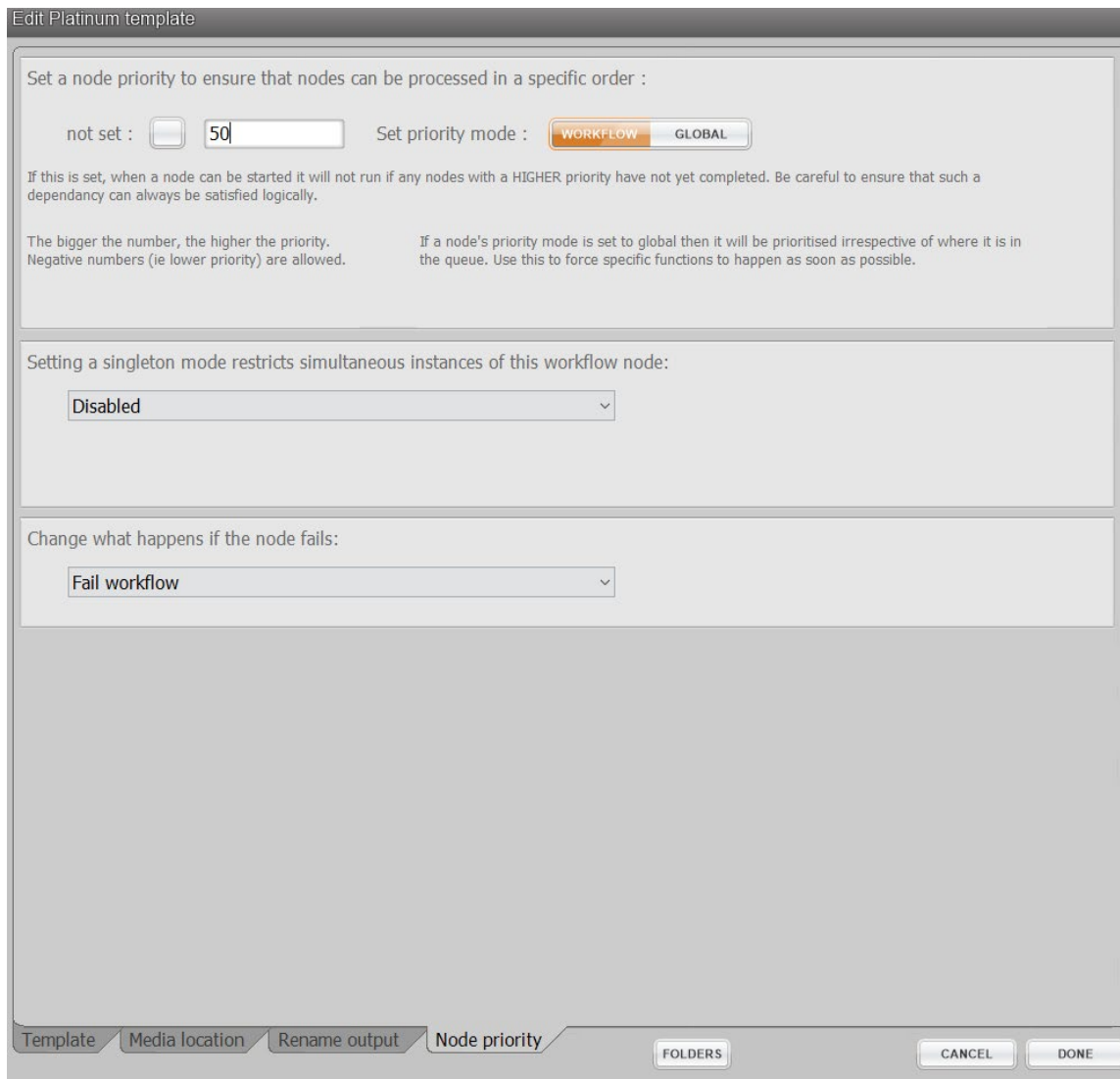

Figure 28 - Node Priority

Singleton Mode

In the Node Priority tab, you can set rules for how a node can be restricted from being run simultaneously across multiple JobAgents. An example use is to restrict access to a slow media source device, such as an XDCAM HD disc to one node at a time. This feature is to restrict multiple JobAgent processing nodes trying to access and read the slow media device simultaneously as this can lead to very slow processing times. With the restriction set on Platinum or MXF wrapper nodes, only one node will run on a JobAgents at any one time. You cannot set this restriction for nodes such as store nodes, metadata injection, reel merging and XML transformer.

For example. If you have a workflow, which contains a reel splitter, a Platinum node and a Store node, and run it on an XDCAM HD disc, it will usually branch the workflow and put as many Platinum nodes on each JobAgent as it can. If you set the template to:

Once Per Workflow

In this case you will get a Platinum node from each workflow (i.e. each card source) sent to the JobAgents. This is what you should do for slow media devices (such as discs and USB card readers). If you tag multiple nodes in your workflow then only one of these nodes will run at a time.

Once Per JobAgent

This is the traditional use of this feature in ContentAgent, which would happen behind the scenes. It means just that – the tagged node can run once per JobAgent. You might do this to reduce stress on your storage system partially, but still have some scaling ability.

Once Per Node per Workflow

This is a version of 'once per workflow' - the nodes that have this tagged on them will run simultaneously, but only one instance of each of those nodes can be run at any time. E.g. If you were re-wrapping and making a proxy then each of those could run together, but only one instance of either of them.

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3.7 Workflow Nodes

TEMPLATE NAME	DESCRIPTION
Platinum Media Engine	Transcoding and Standards Conversion Engine
DPP MXF Packager	Encode and Wrap to DPP Specification
Encode for European Broadcast	Encodes to specific European broadcast specifications
Demuxer	Extracts streams from MPEG2/MPEG4/MOV/MXF/GXF wrapped files
MPEG2 Multiplexor	Wraps files in an MPEG2 container
MPEG4 Multiplexor	Wraps files in an MPEG4 container
Flatten MOV	Re-Save a QuickTime movie, obeying trims if they are set
Re-multiplexer	Unwraps a file and re-writes it as an MPEG, Op1a MXF, Op1b MXF, MOV or MP4
MXF Essence Extractor	Extracts MXF tracks as individual files
MXF Wrapper	Create Op1a MXF Wrapped files
OPAtom MXF Wrapper	Create Avid OPAtom wrapped MXF files from supported media types
AAF Merger	Merges a collection of AAF files into a new sequence
DVD/BD Authoring	Author DVD disc images (.iso/.img)
Baton Verification	Verification/checking of file-based content via Interra Baton
Cerify Verification	Verification/checking of file-based content via Tektronix Cerify

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	Field Order Analysis	Examines sections of the video and determines if progressive or interlaced upper/lower field first
	Add TC metadata	Adds/overwrites timecode metadata based on the clip duration
	NexGuard	Configures a NexGuard forensic watermarking job
	Decision	Allows a workflow to branch depending on the value of a metadata field
	Frame Rip	Enables clipframes to be ripped or frames to be extracted and stored
	Metadata Extract	Enables metadata to be extracted from files
	Reel Splitter	Duplicates downstream branches for each input clip when camera-card based input is submitted
	VidChecker	Verification/checking of file-based content via VidChecker
	Aspera Delivery	Deliver files using Aspera acceleration
	Avid Interplay Check-in	Check an AAF master clip into an Avid Interplay project folder
	File Catalyst Delivery	Deliver files using FileCatalyst acceleration
	Email Clip	Emails a clip or notification to a specified address
	FTP Upload	Deliver files using FTP protocol
	Network Copier	Copy files to local or network locations
	Reel Maker	Merges a split workflow back into a collection of source clips
	Clip Title Auto Metadata Generation	Generates metadata automatically by parsing source filename or path
	Delete	Deletes a clip or source file

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	Fail Workflow	Fails the workflow with a specified error message
	Media Assembler	Assemble media into a reel automatically
	Media Trimmer	Add in/out points to a source clip
	XML Transformer	Reformat clip metadata into an XML or text file
	Metadata to linked clip	Generate a linked clip from a specific or metadata-generated path
	Metadata Injection	Inject static or XML custom metadata fields into a clip
	Send to Workflow	Send output clips to the selected workflow
	Store Item	Store job output into a specified database folder
	CMD Line Launcher	Allows a command line application to be triggered with specified parameters

3.7.1 Platinum Media Engine

This is the most important node within ContentAgent – it will take care of all your transcoding needs.

The first thing to do, whenever creating a template, is to give it a name. Double-clicking in the Template Name: box will provide a default name based on the encoder engine that you select (see below). Alternatively, enter a name that will enable you to easily locate a specific template in what may become a very long list.

In the General area (top left), you can set the target picture size. Use the CALC button to autofill a height or width based on the selected aspect ratio.

Now toggle through the transcode options in the box below (MPEG, QuickTime, AVI etc.). As you do so, note how the parameters for the various video codecs in the surrounding fields change to suit the format selected. If you are seated in front of a fully functioning ContentAgent, you will appreciate the wide variety of adjustable parameters that are available for each format. The information that follows is therefore mainly provided for those of you who are reading this away from a ContentAgent screen.

To stitch incoming clips together as a single output clip upon transcode, tick the *JOIN CLIPS WHEN TRANSCODING CARDS OR REELS* at the bottom of the Encoder tab.

Platinum options are divided in to seven easily accessible tabs at the top. ENCODER, VIDEO, AUDIO, WATERMARK, CONVERSION, TIMECODE, COLOUR

ENCODER

AVC Intra

Use this encoder type to create *AVC Intra* (AVCi) files. Please note that supported formats are preset and deviating from these via the ADVANCED button should reflect knowledge of the codec options.
Common uses include creating DPP compatible AVCi files (with the DPP Packager node) and AVC Long GOP media (with the Re-Multiplexor node to create Op1b MXFs).

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Figure 29 - Platinum - AVCi
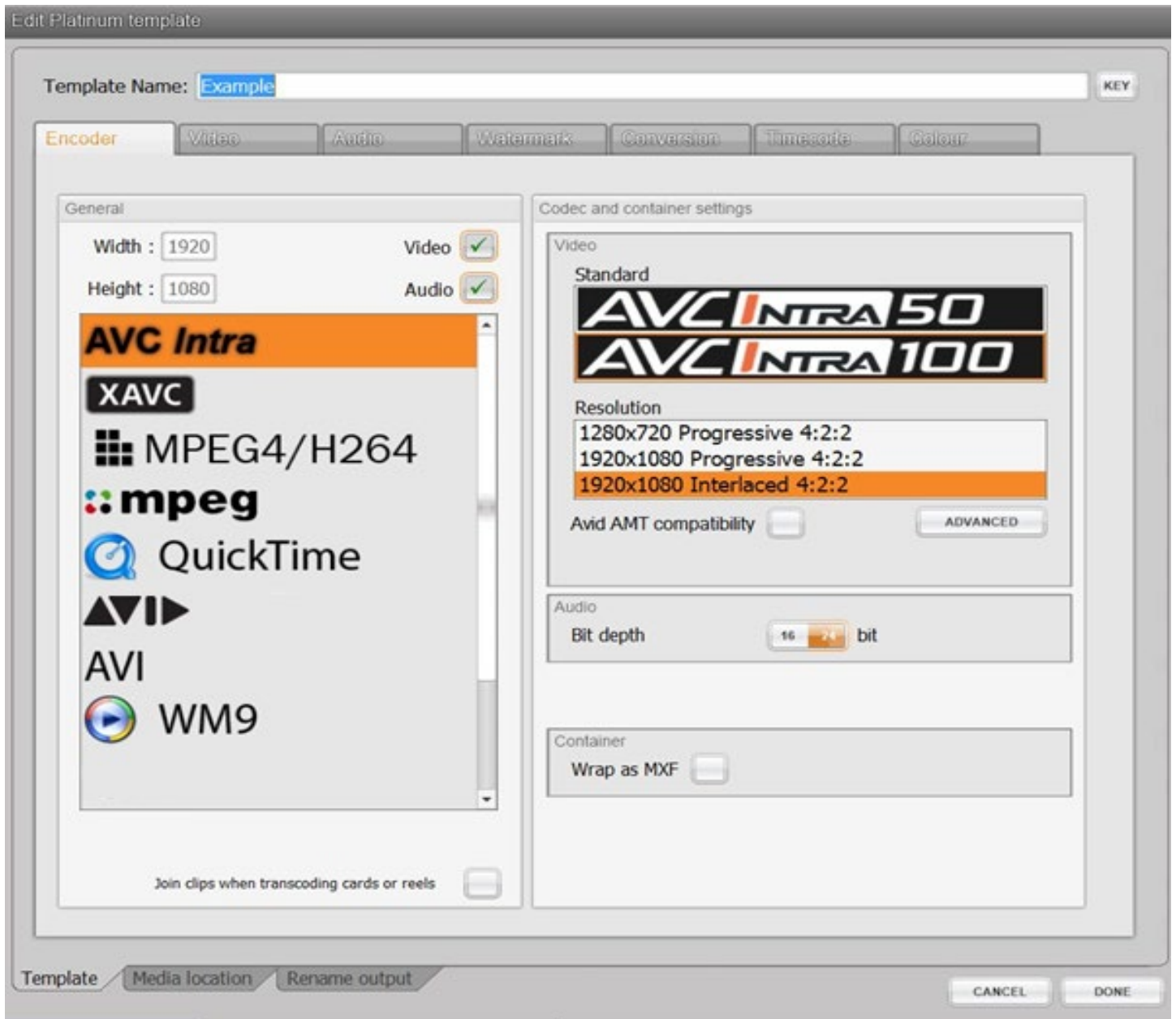
XAVC

The *XAVC* encoder offers the ability to create h264 AVC files specifically at its highest level (5.2). One benefit of using XAVC is that UHD and 4K resolutions are supported. Choose the appropriate resolution, frame type and frame rate if needed. An MXF Container is the most common output, though this can be altered to output elementary (separate) audio and video files.
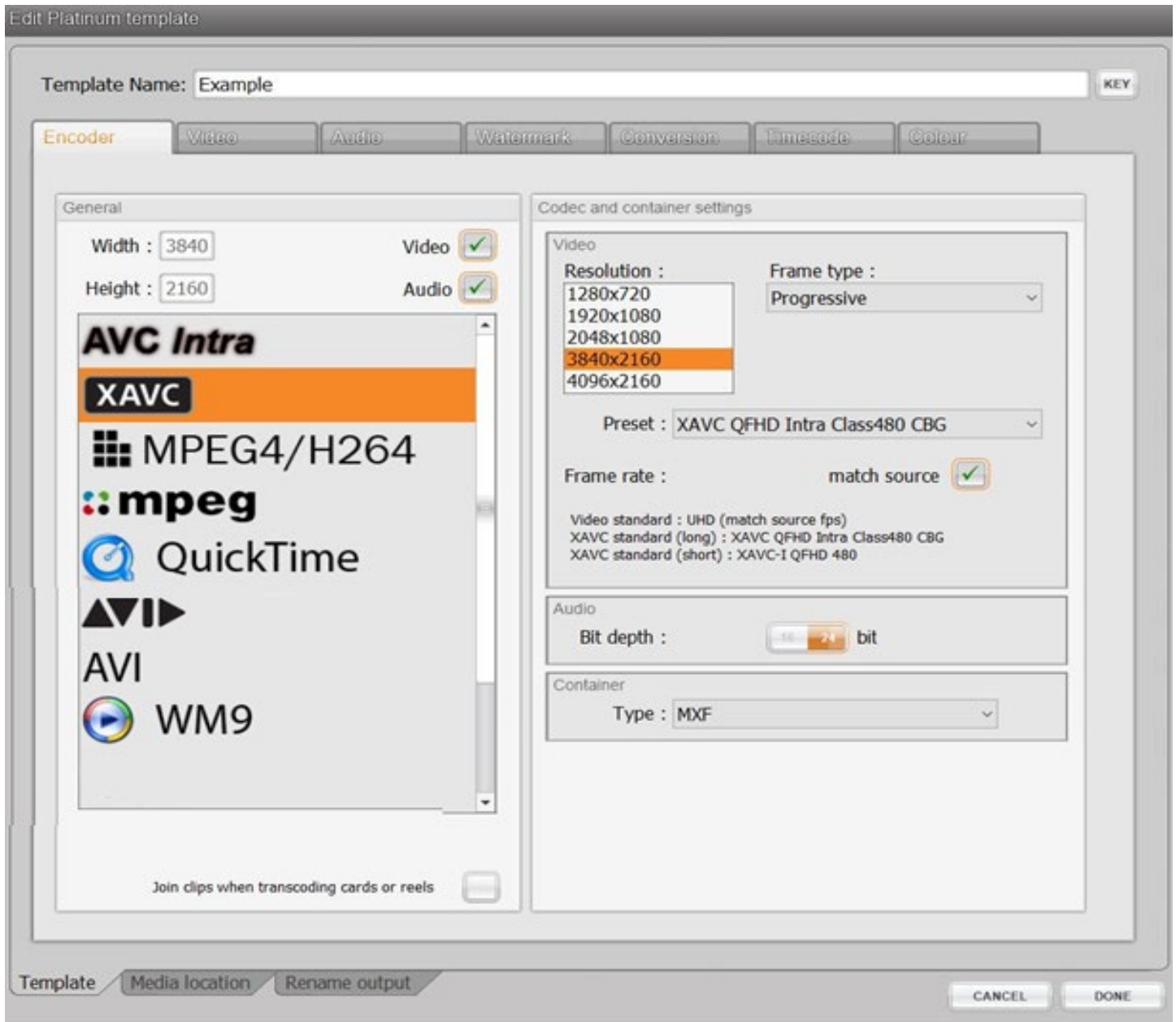
Figure 30 - Platinum - XAVC

▦ MPEG4/H264

MPEG4/H264 provides a suite of standards that has many 'parts', where each part standardizes various elements related to multimedia, such as audio, video, and file formats.

MPEG-4 Part 2 is a video compression technology developed by the ISO/IEC Moving Picture Experts Group (hence MPEG!) It belongs to the MPEG-4 standard (ISO/IEC 14496-2), which is a discrete cosine transform compression standard, similar to previous standards such as MPEG-1 and MPEG-2.

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H.264 is a standard for video compression equivalent to MPEG- 4 Part 10, or MPEG-4 AVC (Advanced Video Coding). This is a block-oriented motion-compensation-based codec, developed by the ITU-T Video Coding Experts Group (VCEG) together with the Moving Picture Experts Group.

Options are provided to select the Video Output format between H264 and MPEG4, each with a number of advanced parameters available via the Settings button. In H264 mode, many presets are available, including: Baseline, DVD, HD_DVD, SVCD, D1, Apple_iPOD, etc. For higher quality output, 2-pass encoding may be selected. Additional parameter options are provided via the Settings button.

The *Pass-thru captions* tick box will maintain source captions during the transcode provided the source is supported and the output preset allows captions. Supported sources are MPEG2 and MPEG4, with either embedded captions or a sidecar .scc file of the same name, in the same folder as the source.

Depending on the H264/ MPEG4 Video Output setting, audio parameters include output selection to AAC, AMR, AC3 or PCM format, with Bitrate and Sample Rate selection where relevant. Advanced Settings, are also provided.

Muxing options vary with the choice of Audio Output format: With AAC and AMR, you can select the mux format to MP4 or 3GPP. Additional selections enable the output to be compatible with devices that use the ISMA, Sony PSP or Apple iPod file formats. Extension choices vary similarly, for example if you choose QuickTime Compatibility you have the ability to output directly as a .mov.

An Output Elementary Streams option is available for AAC, AC3 and PCM outputs. This will create separate audio and video files on output, possibly for input into a downstream MPEG2 Multiplexer node.

mpeg

This feature allows encoding of *MPEG*1 and MPEG2 files. Notable features include the ability to create 512/608 line (VITC) MPEG2 files, DVD MPEG2 files, and Sony XDCamHD or IMX MXF files.

Two Pass mode here works in a similar way to the 2-pass Encoding feature included with the MPEG4/H.264 encoder (see below). This mode can create higher quality files since it will perform an analysis pass followed by an encoding pass. This facilitates much more efficient encoding.

Again, a number of standard output presets are provided allowing the easy creation of many file types. In the Presets section at the bottom, select the appropriate radio button for MPG1, MPG 2, D10 or XDCAM (STD/HD/EX), followed by choosing the required format button below. Settings will be automatically altered to suit most needs.

Access is provided via the Advanced button (in the Codec and Container Settings area) to a further level of customizable Video parameters.

The *Pass-thru captions* tick box will maintain source captions during the transcode provided the source is supported and the output preset allows captions. Supported sources are MPEG2 and MPEG4, with either embedded captions or a sidecar .scc file of the same name, in the same folder as the source.

For advanced audio parameters, click MORE within the Audio section. Note that for PCM no extra options are available, and for AC3 the relevant plugin is required. For MPG audio, some basic options are available.

Under **Multiplexing**, you can choose from a wide variety of output types. Of these, the most commonly used are:

1. NONE - outputs separate audio and video as elementary streams
2. PS - Program Stream, the most common output format. Creates an MPEG2 compatible with many devices.

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3. TS – Transport Stream. Click MORE to configure transport stream settings. Note that further settings are available if using the MPEG2 Multiplexing node in conjunction with a Platinum node outputting elementary streams

4. XDCAMHD MXF – outputs as a Sony XDCamHD compatible MXF file, note this should be used with the XDCamHD preset (described above).

5. XDCAM IMXF MXF – outputs as a Sony IMX MXF file, note this should be used with the D10 preset (described above).

QuickTime

The *QuickTime* encoder uses an enhanced library to create ProRes, DNxHD, DNxHR and AVC .mov QuickTime files. Please note that, with the exception of AVC, these codecs are optional and must be purchased as add-ons.
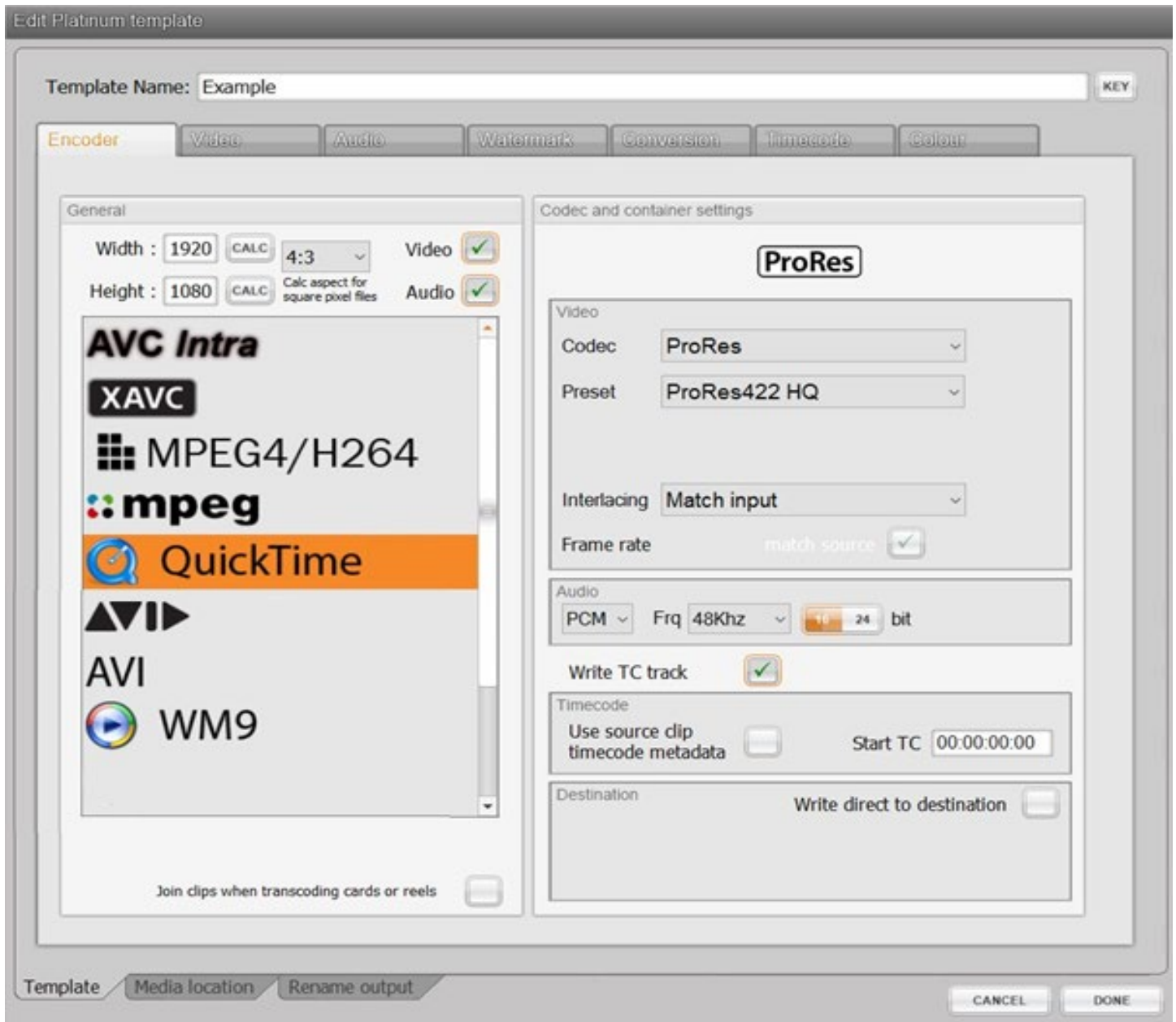
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Figure 31 - Platinum - QT+

CODEC:

Choose from ProRes (Optional), DNx (Optional) or AVC.

Note that your codec selection will determine the subsequent Preset options. Ensure you set the Width/Height appropriately in the General area.

PRESET:

Choose your desired preset from the drop down. For AVC presets, further options can be accessed by clicking on MORE. Note that some knowledge of h264 profiles, levels, etc. is recommended if advanced parameters need adjusting.

INTERLACING:

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Choose Match Input to maintain your source field order on output, or to keep the file progressive. This can be overridden but choosing Progressive, Interlaced Upper or Interlaced Lower should it differ from your source.

AUDIO:
Audio options vary depending on your Codec selection. For ProRes and DNx, only PCM audio is available. For AVC, you can choose from either PCM or AAC audio formats, and adjust properties of the latter further if needed.

Write TC Track – to embed timecode into the output file, tick this box
Timecode – specify whether timecode data should come from your source file information or from a custom Start TC.
Destination – unique to the QuickTime encoder, you can write the output directly to a location of your choosing. As a result, this Platinum node will have no output arm when viewed in the workflow designer.

Avid Media
This encoder allows you to create Avid-compatible MXF OPAtom media. To setup your encoding parameters, choose you settings accordingly.
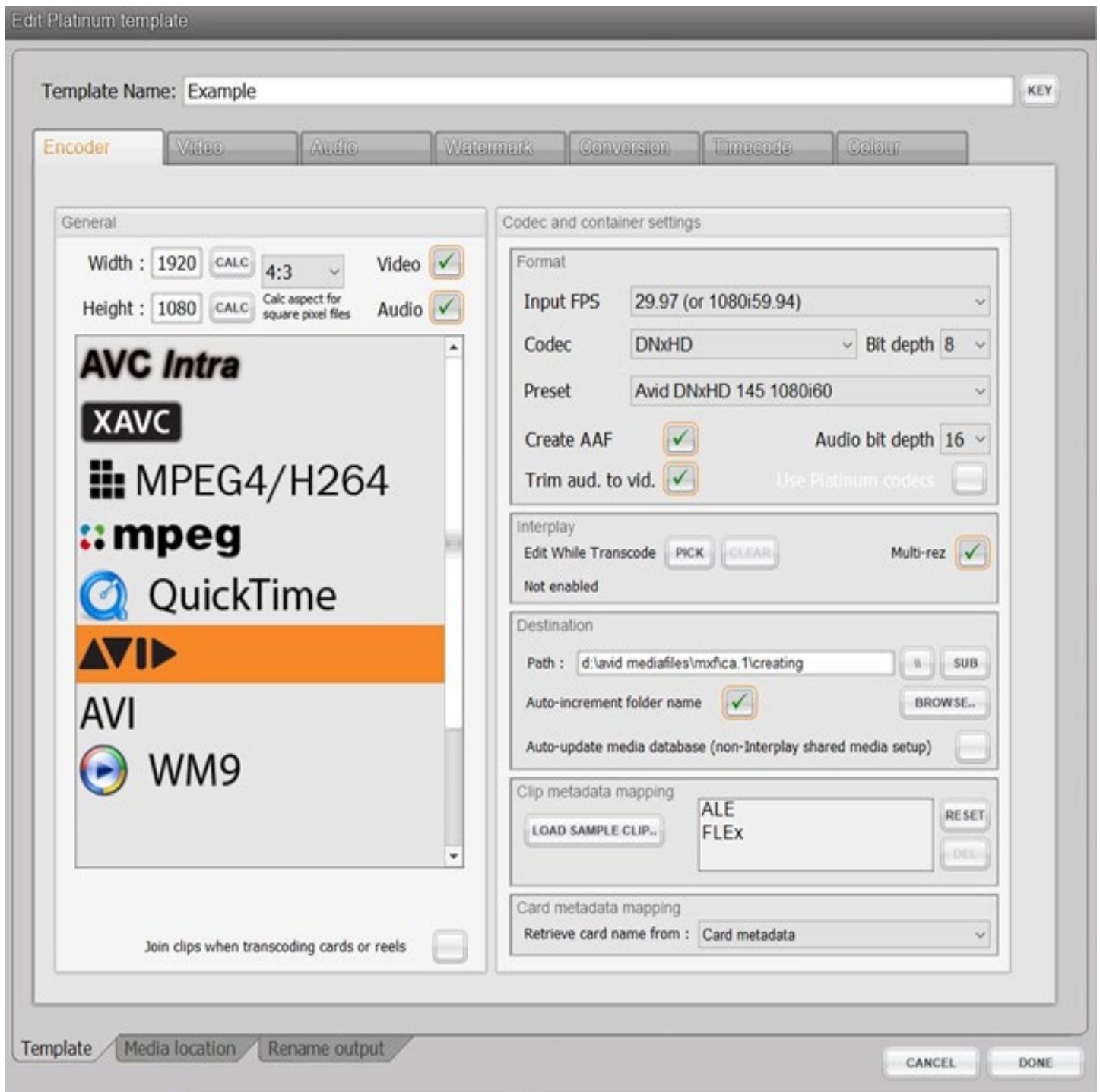
Figure 32 - Platinum - Avid

1. **Input FPS** – choose your desired framerate. This will denote which Codecs are available in the next step.

   Note that this should generally match your incoming framerate. If it doesn't, then frame-per-frame encoding will occur so, for example, over cranked footage will maintain the slow motion effect but audio (if present) will be out of sync.

2. **Codec** – choose your desired codec and bit depth. This will denote what Presets are available in the next step.

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For a list of codecs, please visit our website at www.telestream.net/contentagent/overview.htm.

3. Further options include:
   a. **Create AAF** – output an Advanced Authoring Format file on output. This .aaf can then be imported directly into your Avid bin, or checked directly into an Interplay PAM system. This option should almost **always** be selected, unless alternative non-standard workflows are intended.
   b. **Audio bit depth –** choose from 16-bit or 24-bit options
   c. **Trim audio to video** – select this option if your source audio is longer than video, which can cause 'Media Offline' frames at the end of your clip; this is most common with QuickTime source files.
   d. **Pass-thru data** - option to pass-through ancillary data, if it exists in the source (e.g. an AS02 card with VANC) or if captions (e.g. an external .scc file) are linked via metadata
4. **Interplay** – if you have an Interplay PAM system, these option may be useful for you:
   a. Edit While Transcode – use this to check your clip into Interplay as soon as transcode begins, allowing editors to begin working on it prior to transcode completion. Click 'Pick' to choose the Interplay folder for check-in; note that in your workflow you will also need a secondary Interplay Check-in node, coming off the AAF output of this Platinum node, to complete the process.
   b. Multi-rez – choose this option if you are working in a dynamic relink environment. Within your workflow, any Platinum or OPAtom Wrapper templates that have the Multi-Rez box enabled will be linked as a single clip, sharing the same clip ID.
5. **Destination**
   a. Path – this is where the .mxf files will be written to. You must set your Destination PATH appropriately here. ContentAgent will write media DIRETCLY to this location, and the resultant AAF will reference this location. Generally, this will be an Avid MediaFiles folder, e.g. \\AVID-VSD\Workspace\Avid MediaFiles\MXF\1. ContentAgent will automatically make a Creating folder there within, for temporary file creation, and will move these into the folder path above once transcodes are complete.
   b. Auto-increment folder name – use this option to avoid folder item limits. If your destination folder item count reaches 5000 files, it will auto-create a new folder with .1, .2 etc... appended to the folder name.
   c. Auto-update media database – a very useful feature if Interplay is not present. Select this option to automatically update the Avid Media Composer Media Database. When creating Avid OP-Atom media it is now possible for ContentAgent to automatically create and update the .pmr file that is present in all Avid MediaFiles folders. This avoids lengthy rescans by an Avid Media Composer client and means that media imported via AAF is instantly available. This also means that within the Root\Avid MediaFiles\MXF folder structure, sub folders can be named however the user wishes, such as Root\Avid MediaFiles\MXF\HiRes and Root\Avid MediaFiles\MXF\LoRes, or Root\Avid Media-Files\MXF\Mon, Root\Avid MediaFiles\MXF\Tues etc., allowing for greater flexibility when managing storage. This feature is available in both the Platinum node (when creating Avid media) and in the Avid OPAtom wrapper node.

      There are a few workflow practices to be aware of when using this feature:

      The MediaFiles folder should always be in the structure as follows:
      <Drive\UNC Root Level>\Avid MediaFiles\MXF\<FolderName>

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If it is not, Media Composer will not be able to find the msmFMID.pmr file within the folder, and all media will be offline. The MediaFiles folder should also not be called something that a Media Composer client will try to update itself (for example, 1, MachineName.1, or another derivative of these).

All media must be imported via an AAF file. ContentAgent will only build the msmFMID.pmr file, and not the corresponding .mdb file, which is used by the Avid Media Tool to generate a clip list. This means that the media tool will not find media in folders where ContentAgent has built the msmFMID.pmr file itself. Using an AAF file will allow you to import the media in the same fashion, and will contain all of the same metadata.

6. **Clip Metadata Mapping**

This is an advanced feature for those who are familiar with ContentAgent metadata handling. In summary, this section allows you to override the default metadata groups that will appear as custom columns in Avid. By default, any metadata in the ALE or Flex groups in your source clip will be added as custom columns. To override this, click LOAD SAMPLE CLIPS and choose a clip from your Store that has custom metadata.

AVI

AVI

Create uncompressed Audio Video Interleave (.avi) files. Use the C*olourspace* dropdown to override the default output colour space, to either YUY2, RGB or I420. In the Audio section, choose your sample precision and rate if needed.

![WM9 icon] **WM9**

This encoder allows you to create *Windows Media* Audio/Video (.wmv) files.

In the **Profile Details** area, you will see the current codec settings. Click on **Edit** to access the Windows 'Profile' parameters and modify them as required.

The output **Frame rate** can be set to any of the usual suspects. Alternatively, check the match source box. For a higher quality transcode, but with an increased conversion time, 2 Pass Encoding may be selected.

The Aspect ratio may be selected (in the **Pixel Aspect** area) from Square, 4:3, 16:9 or Custom. Custom activates a pair of boxes into which you can enter the required X, Y values.

Having set the Windows Media parameters to your specific requirements, they can be saved in a .PRX file by selecting (guess what) Save PRX.. you will be asked to select a Windows folder in which to save the file. Previously saved files can be loaded via Load PRX... This is a useful facility when you have to manage a number of job-specific profiles to or from external WindowsMediaEncoder projects.

![DV logo]

This encoder enables you to convert clips to *DV*, DVC Pro 25, DVCPro 50 and DVCPro HD files.

The DV format box confirms the DV output. Under Standard, select the correct video standard for your clip, PAL or NTSC.

![telestream]

Select Clamp RGB (values to safe video) or Clamp YUV to limit the colour space for your file to RGB 16..235 or clamp YUV to ITU601r respectively.

With the Clamp RGB option, particular black and white values are preserved. During encoding and decoding, the RGB colour space with R=G=B=16 is used, which corresponds to the colour black. In addition, the RGB colour space with R=G=B=235 is used, which corresponds to the colour white. Normally the values for white are R=G=B=0, and R=G=B=255 for black. The ITU601R specification now defines black (Y=16) and white (Y=235), i.e. the real video signal receives values which are 'blacker than black' or 'whiter than white' (known as the sub- black and super-white values). These sub-black and super-white values get lost in the normal PC RGB 0..255 colour space, but they are preserved with the RGB 16..235 option.

If you select the Clamp YUV option, the sub-black and super-white values of the decoder are clipped to the ITU601r valid range during file creation.

Selecting Reverse field order allows you change the field order of the DV file, since some systems like to have PAL in the lower field first rather than the normal upper field. When dealing with widescreen content you must tick the Set aspect flag to 16x9 option.

Under Output Settings, the output file type can be set to any of the following:

RAW DV

Digital video (DV) stored as RAW DV is muxed but does not use a 'container', i.e. AVI. This is why it is referred to as RAW DV; it usually has a .DV file extension.

AVI Type 1

This native DV interleaved stream is produced and consumed in I/O with a DV device. It contains DV compressed video and pulse code modulated (PCM) audio data. This single interleaved stream can be stored in an AVI file as an 'ivas' (interleaved video/audio) stream.

AVI Type 2

With this type, the interleaved DV data is split into a single video stream, plus audio streams, within the AVI file. Note that this file format requires a small amount of additional processing to split and multiplex the DV stream during the capture and transmit to IEEE 1394 DV devices.

Op1a MXF

Wraps the created essence files as Op1a MXF on output.

Image Sequence

The *Image Sequence* encoder enables clips to be converted into a sequence of individual frame images. For ease of management, three choices are given for the automatic insertion of date, time, or clip name into the Filename root.
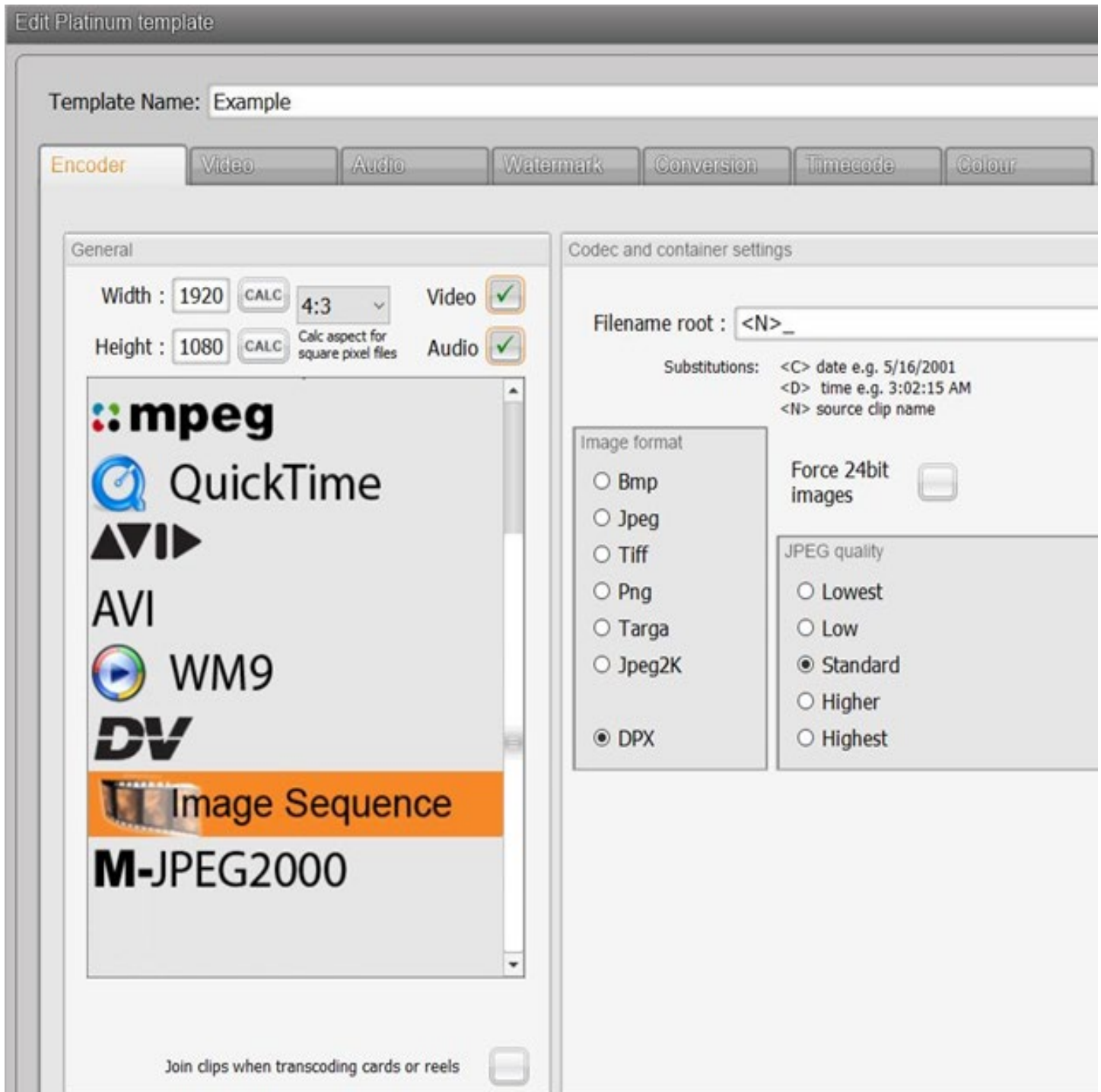
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Figure 33 - Platinum - Image Sequence

The output Image Format may be selected from: Bmp, Jpeg, Tiff, Png, Targa, Jpeg2K, DPX, or OpenEXR. In the case of JPEG and JPEG2K formats, additional options are available to determine the amount of compression or, putting it another way, the output quality!

The default destination directory for encoded sequence files is the C:\ drive; click on the Change button if this directory is not shown, or when you want to select a sub-folder.

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VIDEO

In the Video tab, adjustments can be made to the output video during encode.

Options are provided for Deinterlacing, Scaling, Cropping, Padding, Rotation, Saturation, Forensic Watermarking, Advanced Scaling, and the selection of a Playback Accelerator (disables audio).
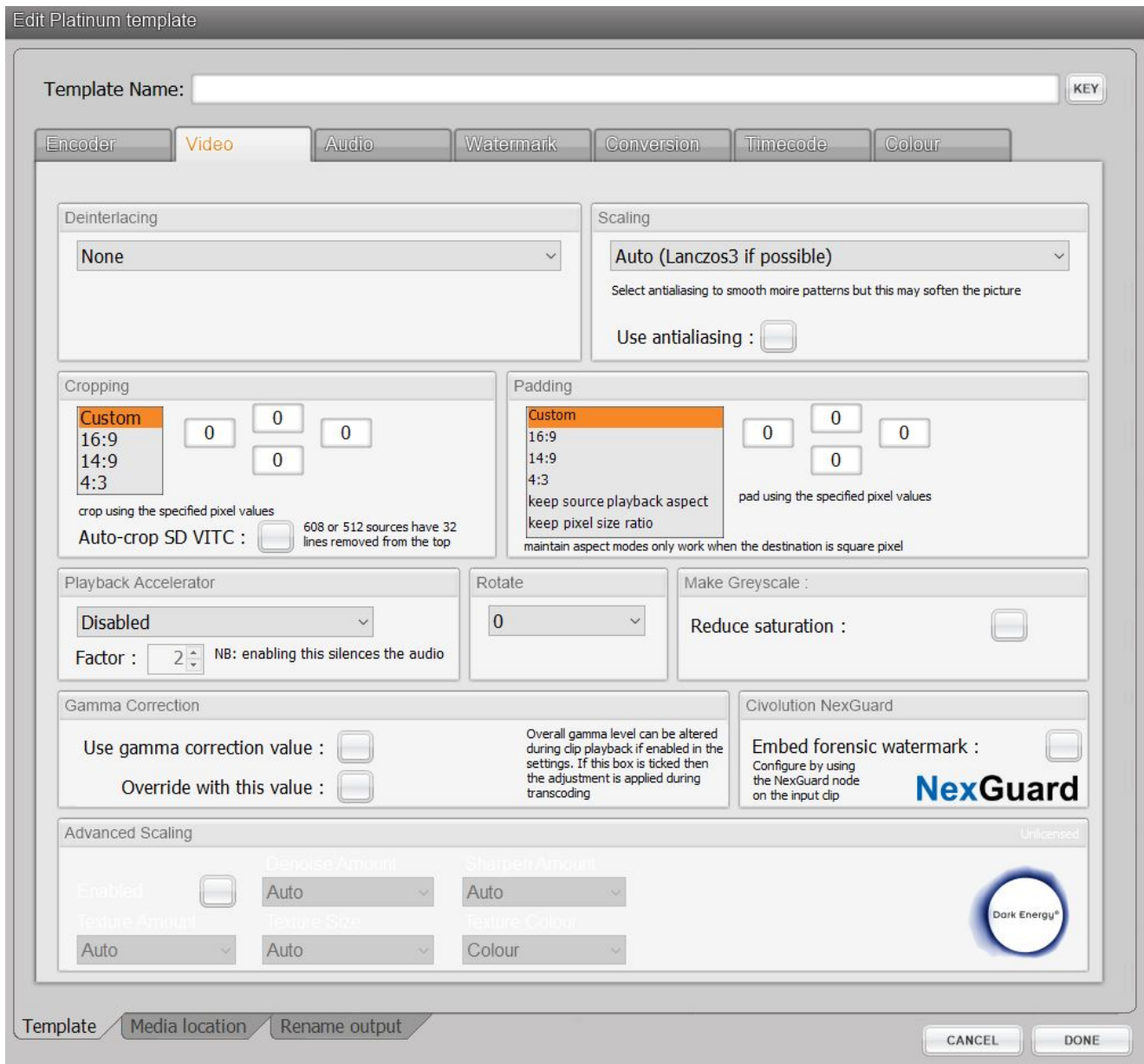

Figure 34 - Platinum - Video Options

Deinterlacing
Selecting Interpolated under Deinterlacing: enables the Platinum engine's high quality deinterlacing feature to turn interlaced video into progressive video. NOTE: This option is disabled if Format Conversion is enabled in the Conversion tab (below)

Scaling

You may determine the required quality for both up and down scaling, the latter including a super-sampling option.

Cropping and Padding

Settings can be altered to taste (Custom) values should be entered in pixels. Fixed presets of 16:9, 14:9 and 4:3 are also provided. In addition, for Padding, a Maintain source aspect option is provided; note that this takes effect after any cropping.

Playback Accelerator

When enabled, can be used to accelerate the video in a negative (making it slower/longer) or positive way (shorter/faster). The video streams can then be muxed together in Video on Demand applications.

Gamma Correction

A video clip's gamma correction can be adjusted on the playback controller (see Section 2) during clip playback. Once a correction has been applied, it will be saved into the clip metadata. During a Platinum Media Engine transcode, this information is read, and the appropriate gamma correction will be applied to any transcoded clip if the Use gamma correction value: box is checked (set to off by default).

Alternatively, with Override with this value selected, the gamma correction applied as above can be overridden by the entered value for the entire clip during a Platinum transcode.

Rotate

Use this option to rotate the source video by 90, 180, or 270 degrees on output.

Make Greyscale

This option allows you to adjust saturation levels of the transcoded clip. 100% maintains source levels, while 0% results in a black and white output.

Civolution NexGuard

Use this option to enable a NexGuard forensic watermark during transcode. NexGuard options should be configured in an upstream NexGuard node, covered in section 3.7.17.

Advanced Scaling

If the Advanced Scaling plugin has been purchased, selecting this option will use an enhanced algorithm to scale video during transcode. Please contact Technical Support (Contacting Telestream) if more information is required about this plugin.

AUDIO

This tab provides an audio patching matrix that enables input audio channels to be encoded to the same or any other output channel. The default display has facilities for two input and two output channels. This can be expanded up to a 24x24 matrix by means of the + and - buttons at the foot of the tab. Select an X in the cross point boxes to route an input to an output (or outputs). To remove the matrix from the transcode process, select Patching Disabled.
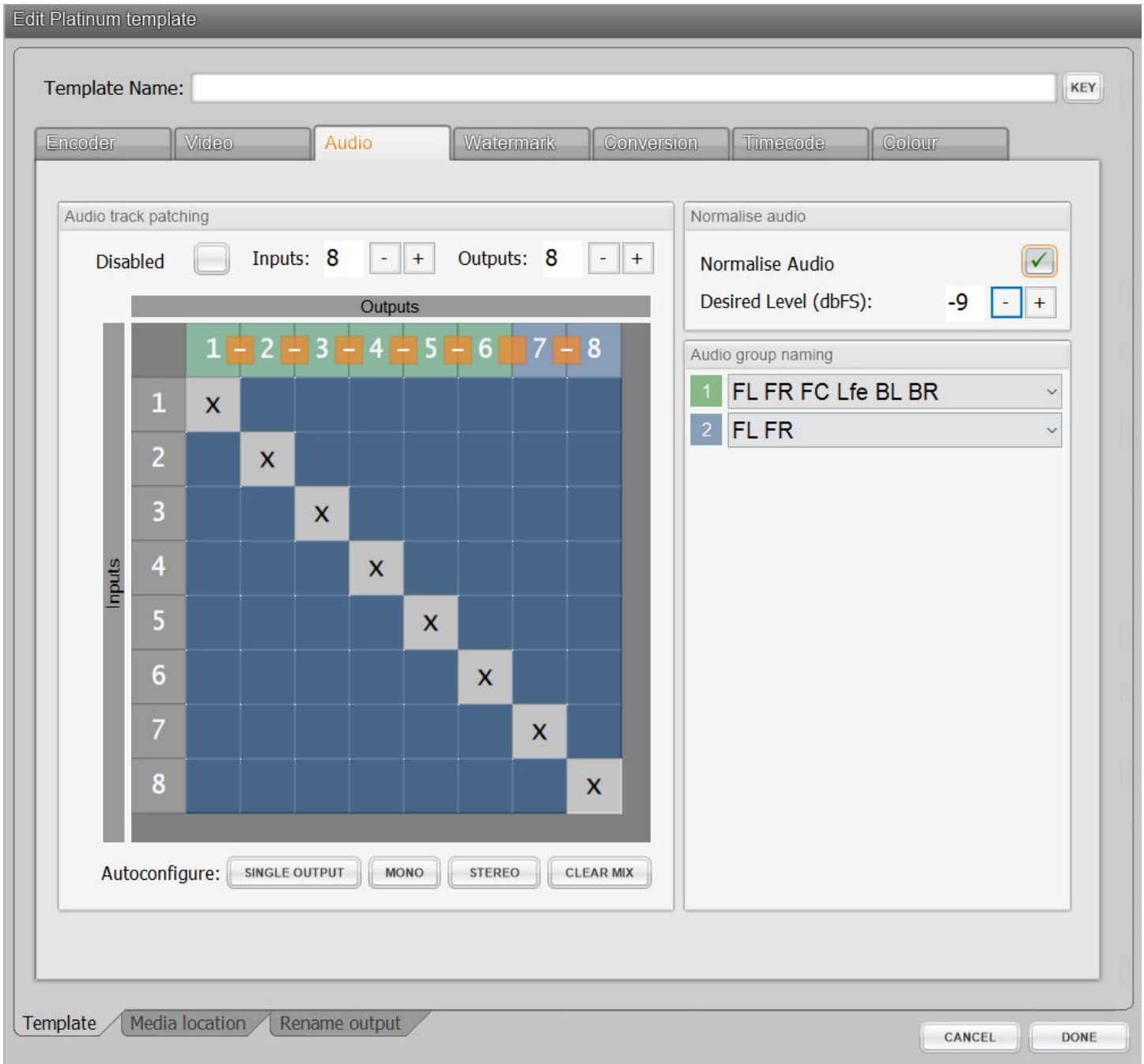
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Figure 35 - Platinum - Audio Options

In some scenarios, outputs may call for grouped or labelled audio tracks/channels. The Autoconfigure section below the patching matrix allows choices of:

1. SINGLE OUTPUT – all channels are output into a single audio track
2. MONO – each channel is output as an individual audio track
3. STEREO – groups pairs automatically into track with 2 channels each
4. CLEAR MIX – resets audio channel mapping to blank

To manually group together channels as a single track, simply click the orange box between output channels numbers. The track listing under Audio Group Naming will be updated dynamically. For example, to create a stereo pair for

channels 1 and 2, click the box between Outputs 1 and 2 (populates with '-' indicating they have been joined as a single track). To create 6 channels in a single track, for channels 3-8, click the orange box between each of outputs 3-4-5-6-7-8.

You will then see enabled tracks depicted on the right hand side, under Audio Group Naming. Use the track-specific dropdown to choose the appropriate label for enabled tracks.

To enter a custom audio output level, check the Normalise Audio box, and enter a dBFS value directly, or by means of the + and - buttons. Note that dBFS is an abbreviation for 'decibels full scale', used as a measurement of decibel amplitude levels in digital systems that have a maximum available level. 0 dBFS is to the maximum possible level in such a system.

WATERMARK

This enables you to add a graphic or textual overlay — a watermark — to any template you create. To select an existing graphic, click on Pick... To create a completely new watermark design, click New....
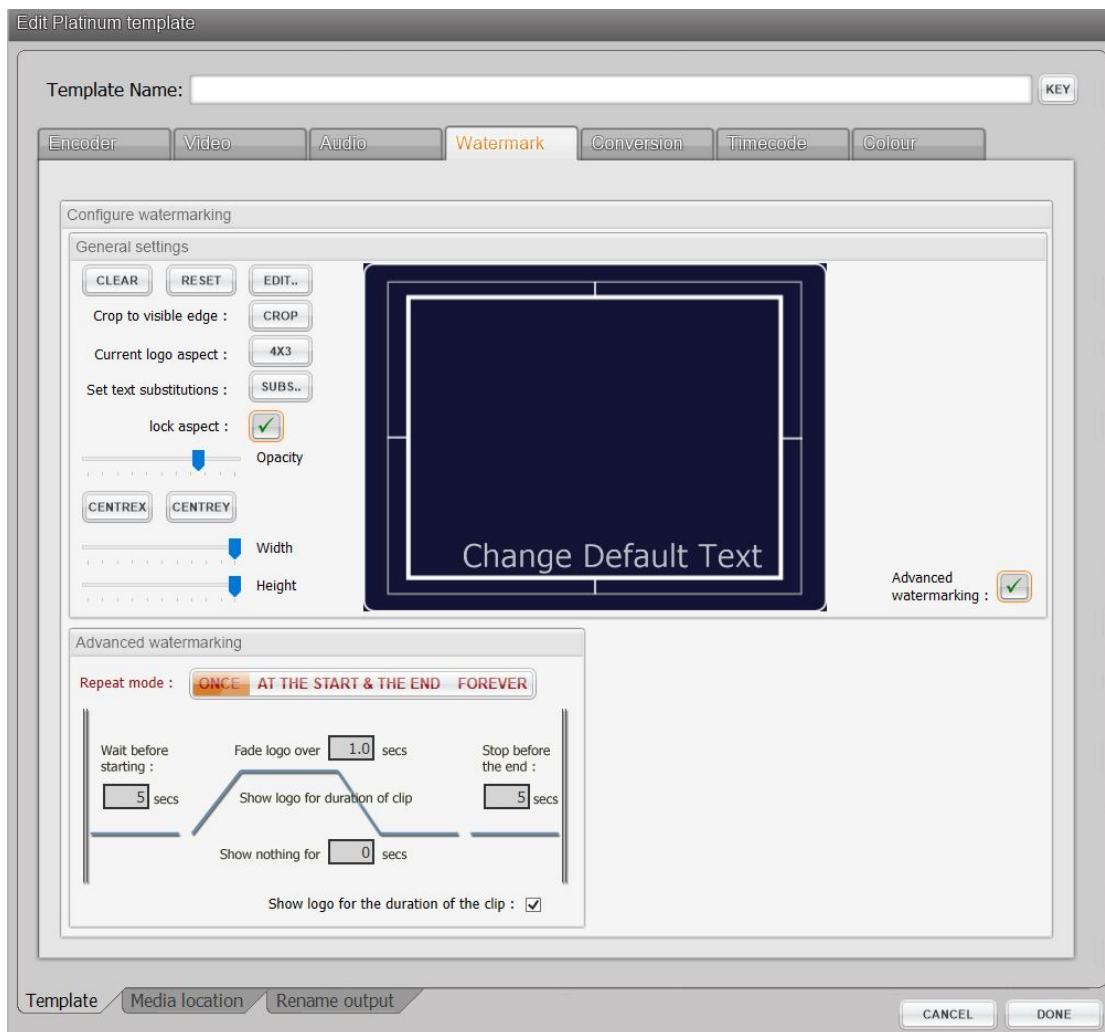

Figure 36 - Platinum - Watermark

CROP: select this to expand/contract the graphic to the visible edge; note that this will *not* obey any title-safe areas

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Current logo aspect: This will scale your logo automatically to either a 16:9 or 4:3 aspect ratio. Note that this is *irrespective* of your source file aspect ratio – the graphic will be scaled accordingly. This can be thought of as what you see is what you get; i.e. what you see in the Watermark tab is what the graphic will look like on output.

Lock aspect – maintain the aspect of the graphic while performing any scaling operations.

SUBS - Any text fields within your graphic can be replaced with metadata. E.g., create a slate from custom metadata, which can be auto-populated during the workflow.

1. Click the **Subs…** button
2. Click **LOAD CLIP** to choose a sample clip from the Store. This will then give you several metadata fields to choose from.
3. At the top, select which text field to replace using the drop-down menu beside "replace text". You will be able to choose from any of the created text fields in your graphic.
4. In the Substitutions section, choose which **Metadata group** to look into, then which field the substitution should be pulled from.
5. Once you have selected a) which text should be replaced b) which metadata group should be used c) which metadata field value should be used, click **ADD SUBSTIUTION**
6. Repeat for any other text files you need to auto-populate.
7. Click **OK** to return to the Watermark tab

Opacity – adjust the overall opacity of the graphic. Note that individual graphic element opacity can be adjusted by clicking EDIT at the top.

CentreX/CentreY – center the overall graphic along the X axis (horizontally) or Y axis (vertically)

Width/Height – scale the overall graphic to your preference

Fade up/down – choose the duration over which the watermark is faded in/out, calculated in number of frames.

Advanced Watermarking – allows further control of watermark timing.

CONVERSION

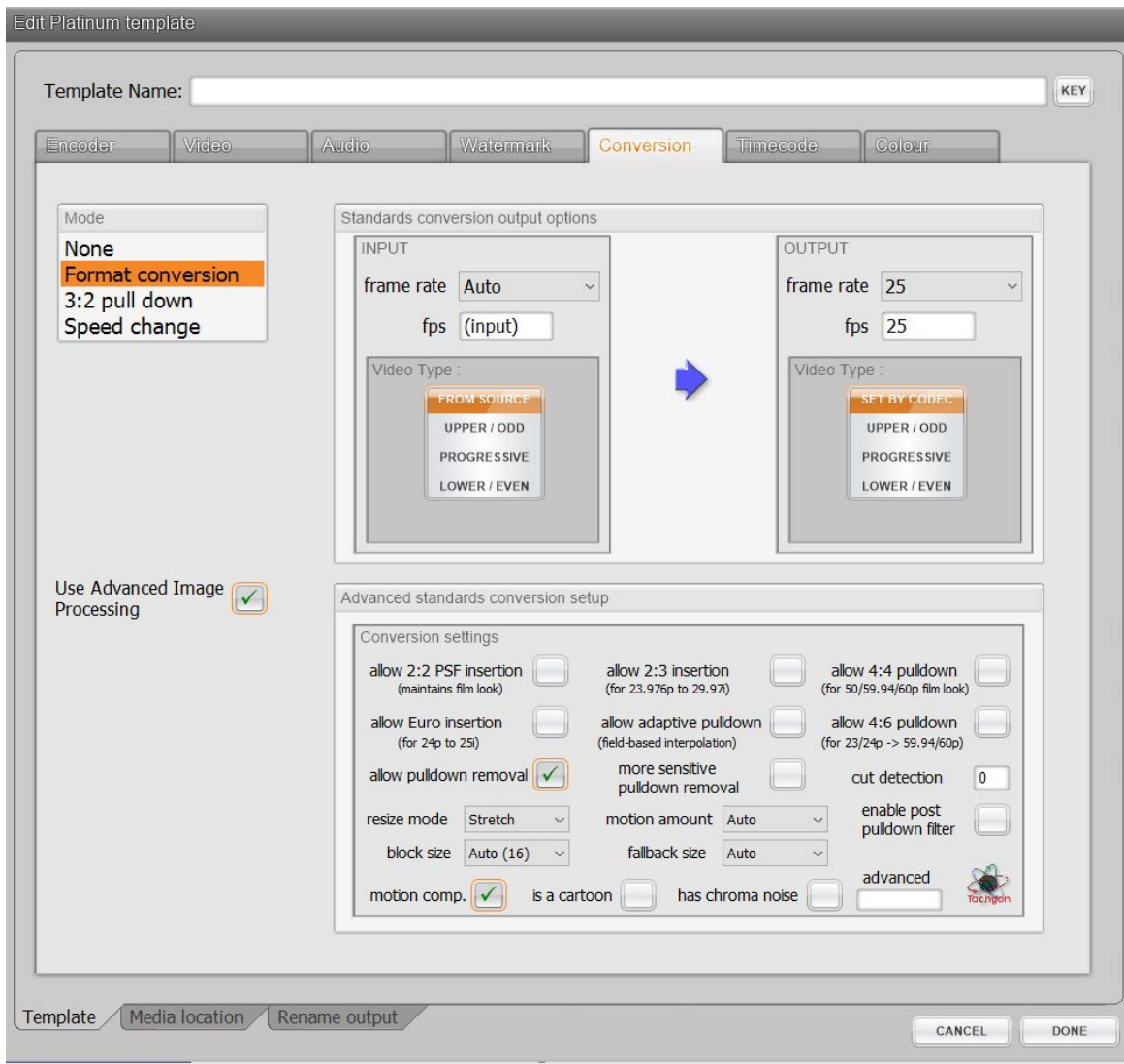In this tab, you can change the output framerate to differ from the input framerate.

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Figure 37 - Platinum - Conversion

NONE – no change in framerate

Format Conversion – change framerate

Input – this can normally be left on Auto and FROM SOURCE, though can be manually adjusted if required. It denotes the incoming file's properties.

Output – here you are setting your output framerate, and is normally locked to what has been configured in the ENCODER tab

Advanced Image Processing – if you choose the Format Conversion option, you will have the ability to select Advanced Image Processing to invoke a high-quality format/standards conversion algorithm. Please note that this is an optional add-on only and may not be available on your system; please contact Technical Support (Contacting Telestream) if more information about this option is required.

3:2 Pull down – will perform a 3:2 (2:3) pulldown operation from when coming from a 23.976 fps or 24fps source, resulting in a 29.97 output. This is achieved by adding a third video field to every second frame (4 fields) of video.

Speed change – will alter the playback speed of the output, without changing individual frames. Common uses include going from 24->25fps without doing a full-on framerate conversion. Note that this will result in out of sync audio. To maintain audio sync, by adjusting audio pitch, select the 'Change Audio Pitch' box. Note that **'Change Audio Pitch' is an optional add-on**; please contact Technical Support (Contacting Telestream) if more information is required.

TIMECODE

Use options in this tab to enable a visible overlay of timecode on your output.
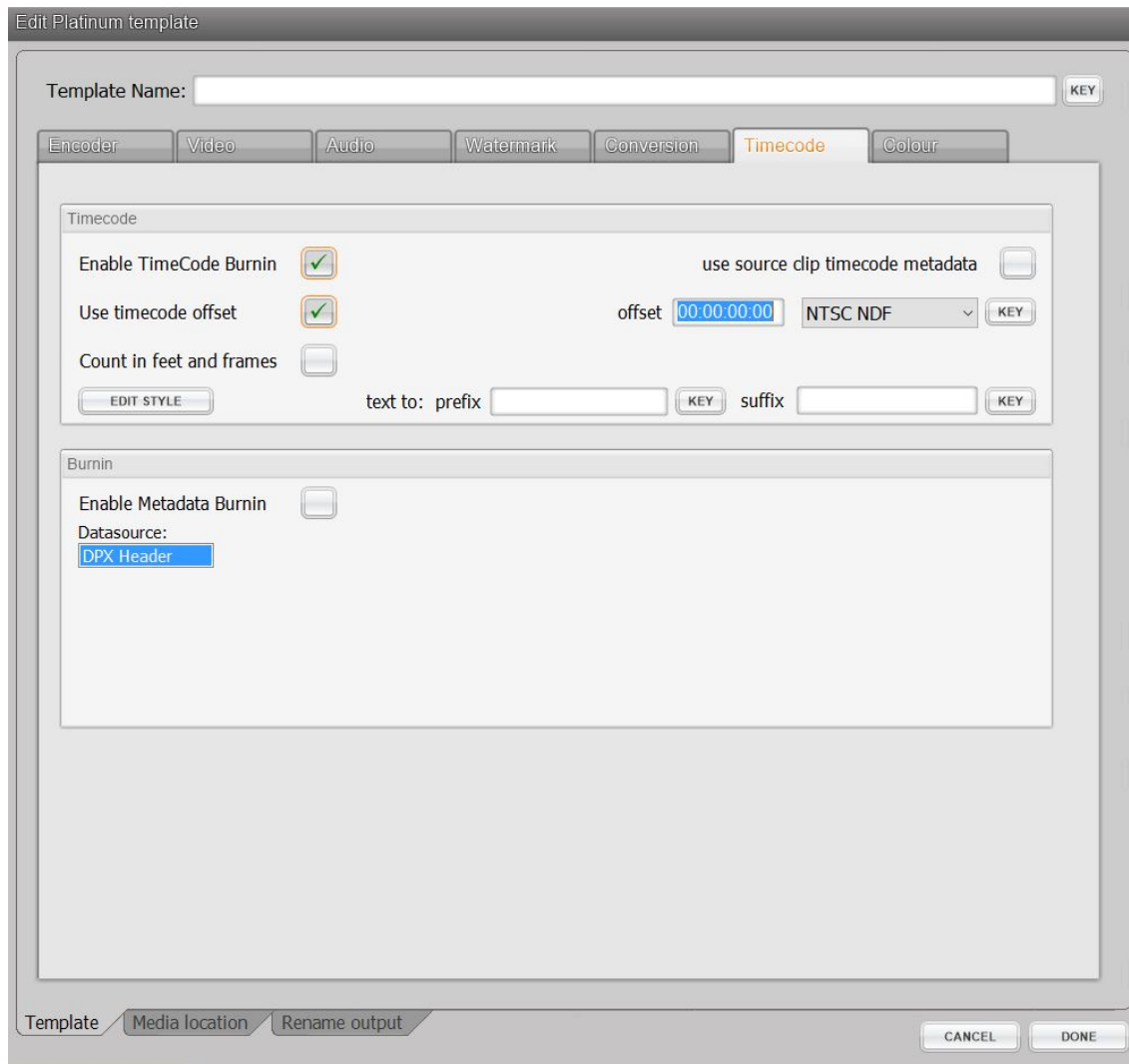
Figure 38 - Platinum - Timecode

Enable TimeCode Burnin – tick this box to enable the burn-in

Your burn-in data will either **"use source clip metadata"** (i.e. take your source clip's start timecode and format) or "use timecode offset" in which Start TC (offset) and format can be specified. At the same time, you also Count in feet and frames for film workflows.

Click **EDIT STYLE** to adjust:

    a) Font
    b) Position

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c) Colour/Shadow

You can also add prefix or suffix text around the timecode burn-in, which will obey the same style properties.

In the lower half's **Burnin** section, you can choose DPX header information to automatically burn in in lieu or in conjunction with traditional timecode. Tick the Enable Metadata Burnin box to see the default header information to be burned in, and click ADD, EDIT< or DELETE to adjust properties and style.

COLOUR

Options within this tab control come of the colour properties of your encode.
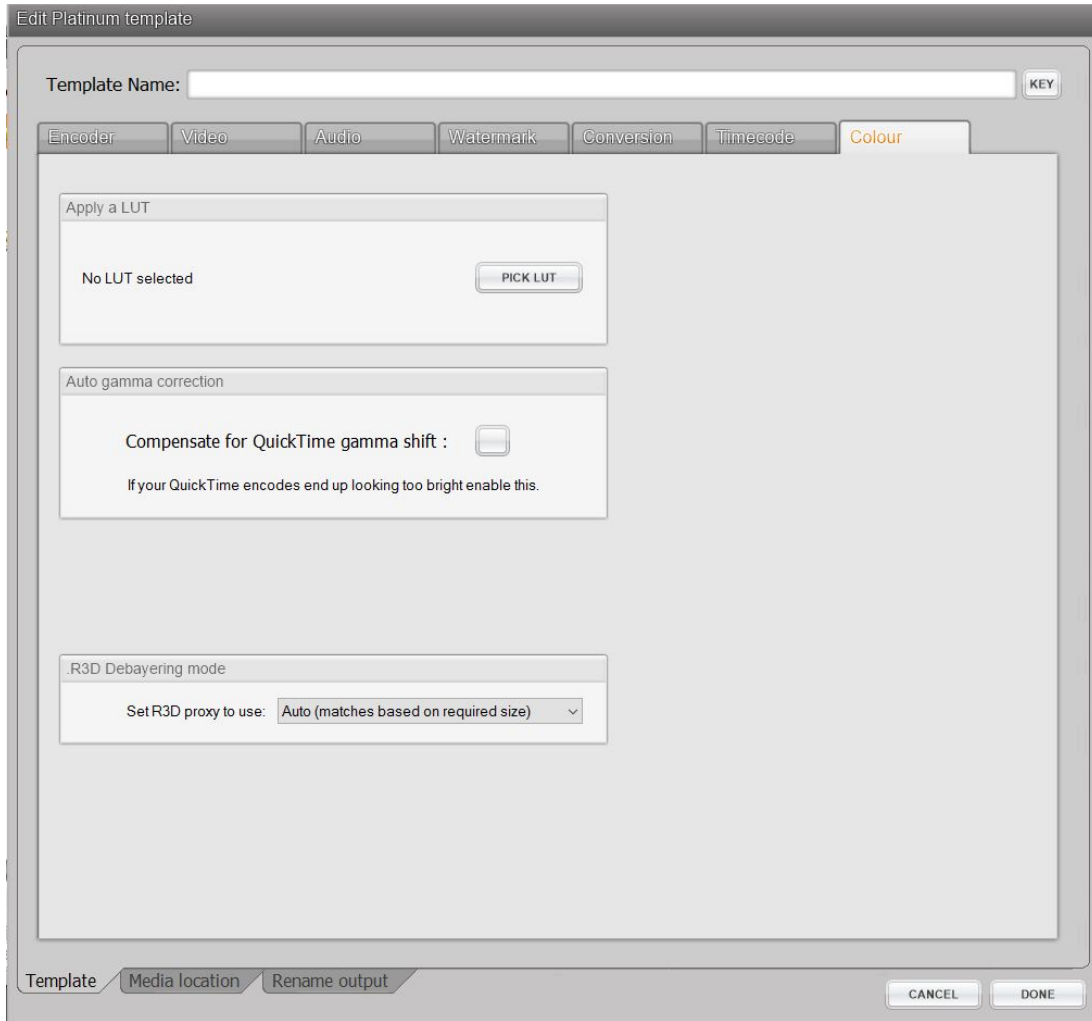
Figure 39 - Platinum - Colour Options

Apply a LUT

Here you can apply a colour transformation, via a colour Look up Table, during the transcode. Click 'Pick LUT' to choose a LUT that you have already imported into your Store. Note that only .CUBE files are supported.

Auto gamma correction

Designed to overcome any gamma shifts that may occur with QuickTime encodes. Adjust gamma by a specified amount during encode. 1.0 is no change.

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R3D Debayering mode
- Only applies if your source input is an .r3d file.
- Allows a specific quality level as input – the lower the resolution, the faster your encode will go.
- By default, ContentAgent will attempt to match the debayering level (resolution) closest to your output frame size

3.7.2 DPP MXF Packager

The DPP node allows the user to encode and wrap AS-11 UK DPP compliant MXF files, as well as perform a number of other ancillary functions. This node is limited in its exposed functionality, as it is designed to ensure creation of an AS-11 UK DPP compliant asset.
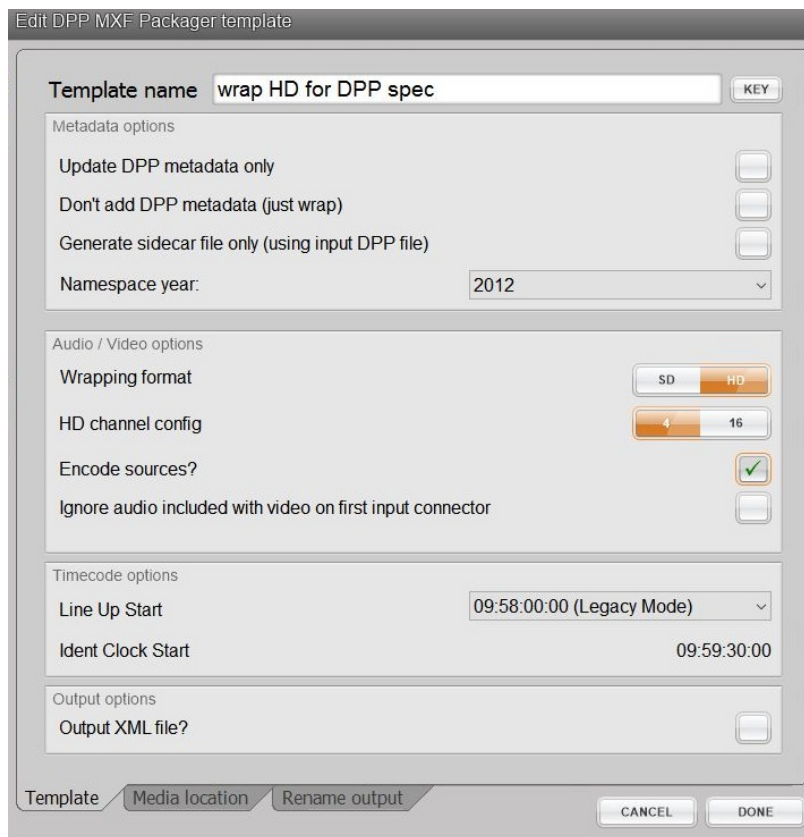
Figure 40 - DPP MXF Packager

Basic functionality
In its initial unaltered state, the DPP node will create a file conforming to the HD AS-11 UK DPP shim, with 16 audio tracks. This will both encode the required video and audio essences and any AS-11 UK DPP metadata provided before the node is run.

Metadata Options
Update DPP metadata only
When checked, if the input file is an existing AS-11 UK DPP MXF file, this will update the existing file in place with new metadata values, without rewrapping. New metadata values should be provided before submitting the job, with the usual methods.

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Don't add DPP metadata (just wrap)

When checked, this will create an AS-11 file rather than a full AS-11 UK DPP file (including only the AS-11 Core metadata sets). In this mode, the Line up Start setting has no effect and the source file timecode will be preserved.

Generate sidecar file only (using input DPP file)

When checked, this will only generate a sidecar XML file for an existing AS-11 UK DPP MXF file, similar to that produced by the "Output XML file?" option.

Namespace year

Allows the user to choose the year of the namespace definition in the output XML file, for compatibility with 3rd party software.

Audio/Video Options

Wrapping format

Allows the user to choose whether to create a file compliant with the SD or HD AS-11 UK DPP shims.

HD channel config

Allows the user to select the output audio channel configuration (4 or 16 tracks) when creating an HD AS-11 UK DPP file, in line with the acceptable values in the specification.

Encode sources?

When checked, this will encode the source file audio and video essences to the required AS-11 UK DPP codecs, as well as wrapping them into the output file. When unchecked, this will only rewrap existing compliant audio and video essences into the output file. When the "Encode sources?" box is left unchecked, users should ensure that they are only feeding the DPP MXF Packager elementary streams (1 video stream and 4 or 16 audio streams).

Ignore audio included with video on first input connector

Allows the user to pass in audio on the second input connector, and ignore the audio included with the video file on the first input connector. An example use case for this would be where a user wishes to remap audio included with the video file in an additional Platinum node, before passing this to the DPP MXF Packager node.

Aspect ratio for SD

Allows the user to set the aspect ratio for created SD AS-11 UK DPP files.

Timecode options
Line Up Start

Allows the user to set the start timecode of the output file. Traditionally, this is where the lineup starts in an AS-11 UK DPP file. If the source file has an existing timecode and "Don't add DPP metadata (just wrap)" is not ticked, this will overwrite the timecode with the selected option.

Output options
Output XML file?

When checked, this will output a standard DPP sidecar XML file that contains the created file's metadata.

Usage

For example, take a mezzanine file, submit to a workflow like the below to create your DPP deliverable, perform an automated QC pass, and based on the result of the test, either deliver via Aspera or place in a holding folder for review.
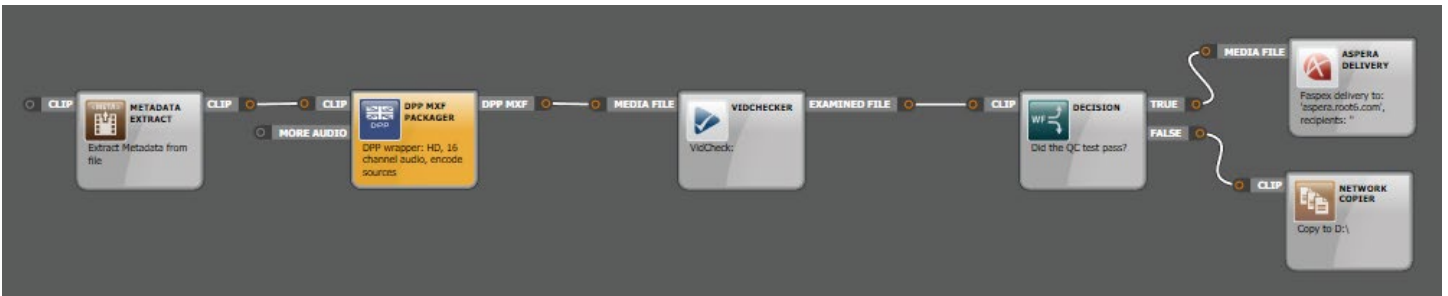
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Figure 41 - Workflow - DPP MXF Packager

3.7.3 Encode for European Broadcast

Create AMWA AS-10 (HD_High_2014 shim) for the French broadcast market or ARD_ZDF files for the German broadcast market. European Broadcast Delivery node will perform transcoding and wrapping.

AMWA AS-10, is based on the XDCAM RDD9 op1a MXF format. Node will perform transcoding and wrapping, producing a 1080 50i clip with 8 audio tracks. Production metadata can be added if desired by adding the AS-10 core metadata schema.

ARD_ZDF, is based on AVC-Intra RP2027 and XDCAM HD op1a MXF formats, three choices are available AVC-I 1080 50i, AVC-I 720 50p or XDCAM 50i with 8 or 16 audio tracks.

Figure 42 - Encode for European Broadcast - AS10

Figure 43 - Encode for European Broadcast - ARD

Usage

For example, take a mezzanine file, submit to a workflow like the below to create your broadcast deliverable, perform an automated QC pass, and based on the result of the test, either deliver via Aspera or place in a holding folder for review.
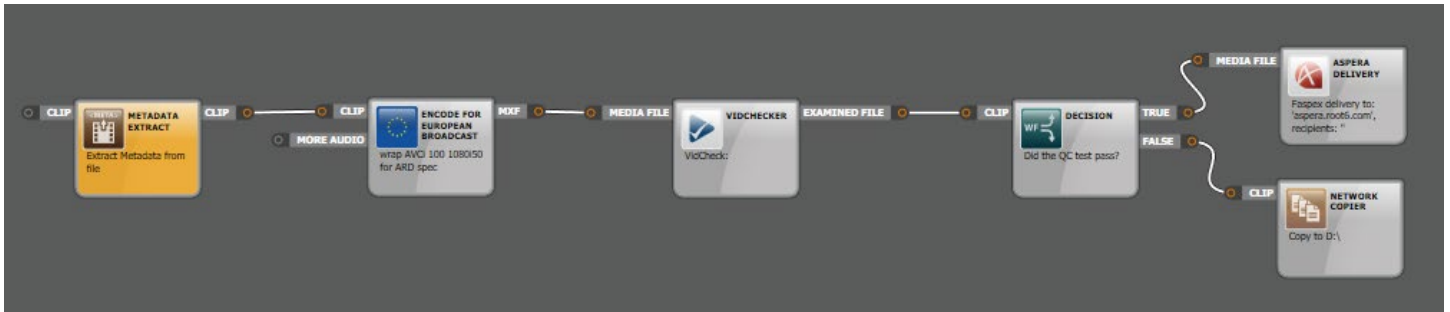
3.7.4 Demuxer

This node enables the de-multiplexing of MPEG, MPEG4, MOV, MXF or GXF wrapped files within a workflow. Note: not all variants of these containers can be demuxed; for detailed information please contact Technical Support (Contacting Telestream).

Start by clicking LOAD SAMPLE CLIP to obtain stream information from an existing clip. Once picked, this will populate the Streams pane with a single Video track (denoted by V) and one or more audio tracks (denoted by A). Click X to remove a stream from the demux process. Click ADD STREAM to manually add streams rather than obtaining info from a sample clip. The template will output the number of streams specified.
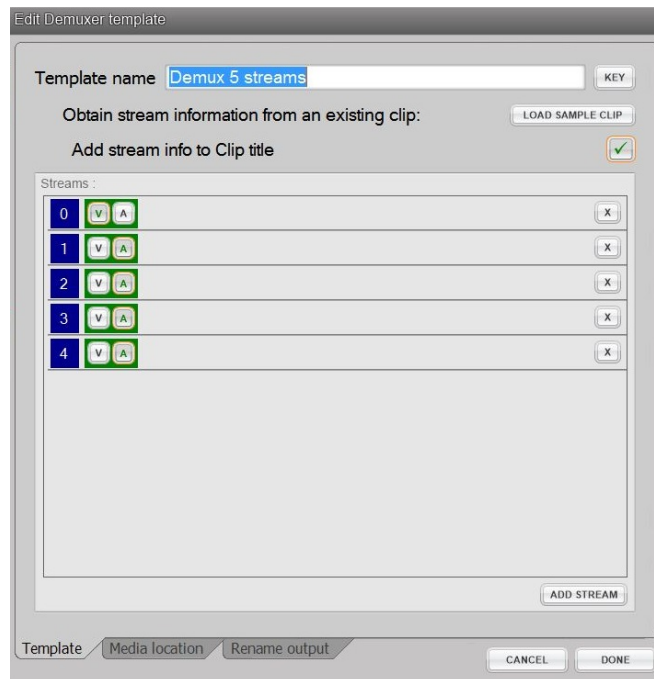
Figure 44 - Demuxer

The resulting elementary streams can be fed to other processors such as Platinum Media Engine, MXF Wrapper, or MPEG2 multiplexor. For example, you might have a Program Stream multiplexed MPEG2 file, and want to re-multiplex it as a MPEG2 Transport Stream. Build a workflow that unwraps the MPEG2 Program Stream, set some PIDs then rewrap the streams within a MPEG2 Transport Stream using the MPEG2 Multiplexor processor (see next section).

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Usage

Figure 45 - Workflow - Demuxer

3.7.5 MPEG2 Multiplexor

This node provides multiplexing for Program and Transport Streams, as well as presets to enable the creation of valid variances of the above, such as CableLabs, DVD and more. The multiplexor allows the adjustment of Transport Stream settings including the Program Clock Reference PID, Program Map Table PID and Stream PIDs for the individual audio and video streams within the wrapper.

Select the Multiplexing Type from the drop down menu, and the file extension accordingly. Note that options available are contingent on which Multiplexing Type is chosen.

To manually add Stream information, choose Define Stream PIDS and click NEW Stream, then specific whether video or audio.

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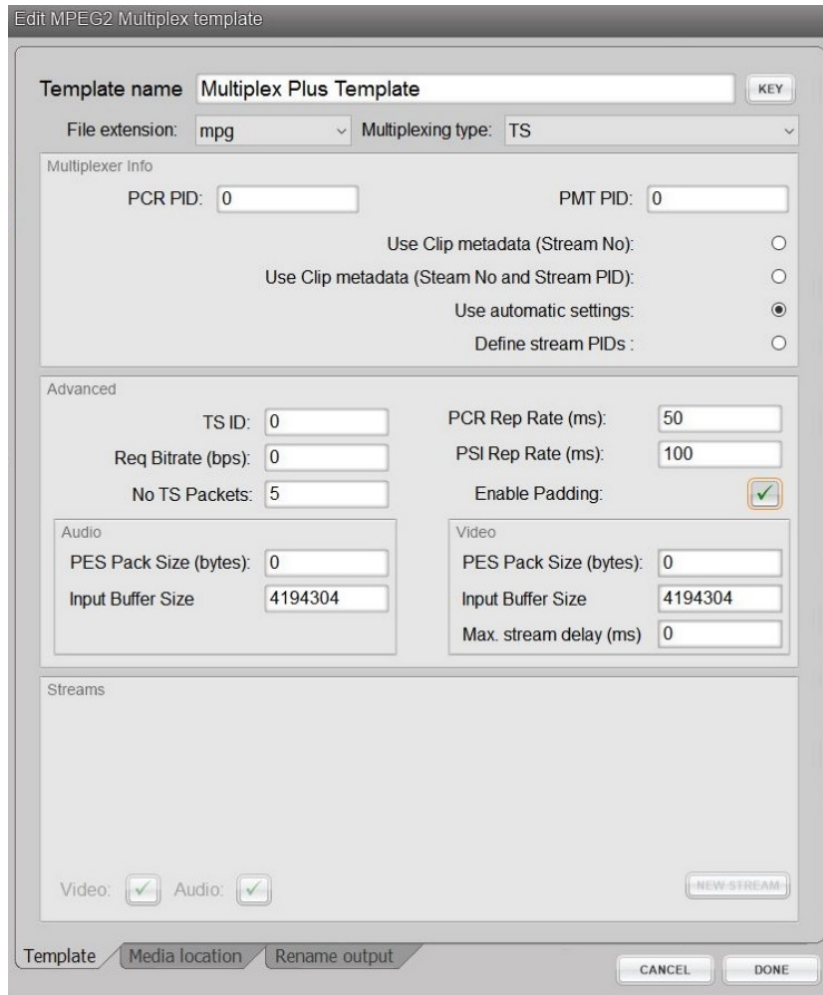
Figure 46 - MPEG2 Multiplexor

Usage

For example, create an h264 Transport Stream by creating h264 video and AC3 audio elementary streams using the Platinum encoder, and multiplex as a TS using the MPG2 Multiplexor:
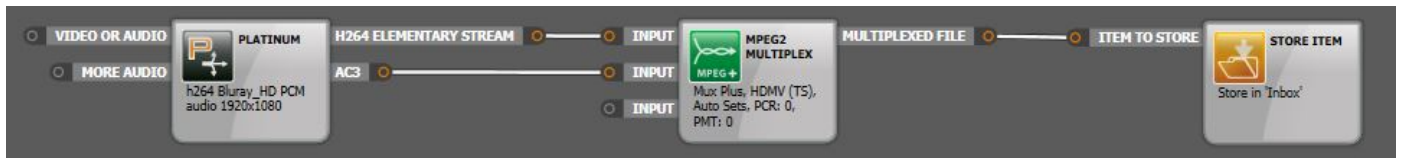

Figure 47 - Workflow - MPEG2 Multiplexor

3.7.6 MPEG4 Multiplexor

This node provides multiplexing for MPEG4 media in multiple variants. The multiplexor allows the adjustment of various parameters including Atom Order, Compatibility and mdat size. Advanced knowledge and understanding of these terms and options is recommended prior to using this processor. For example, to enable 'Fast Start' (also known as 'hinted'), choose QuickTime as your Output Format and set your Atom Order as MOOV before MDAT.

Select the Output Format from the drop down menu on the LEFT to choose the file type. On the RIGHT, Output Format denotes the compatibility of the output file. Note: if your Output Format on the LEFT is not MP4, you will be limited to

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MP4 Standard compatibility. Choose your file extension accordingly. Note that options available are contingent on which Output Format is chosen.
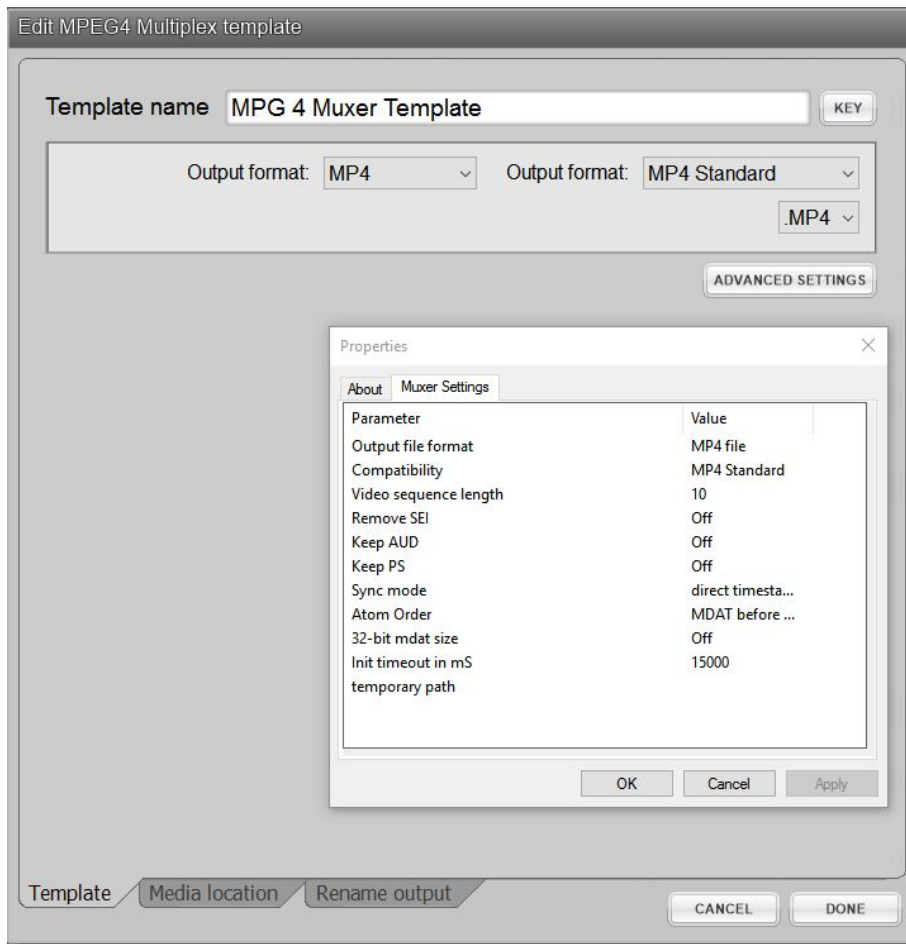

Figure 48 - MPEG4 Multiplexor

Usage

For example, create elementary audio/video streams using the Platinum encoder and feed these into the MPEG MULTIPLEXOR to create you interleaved output file:
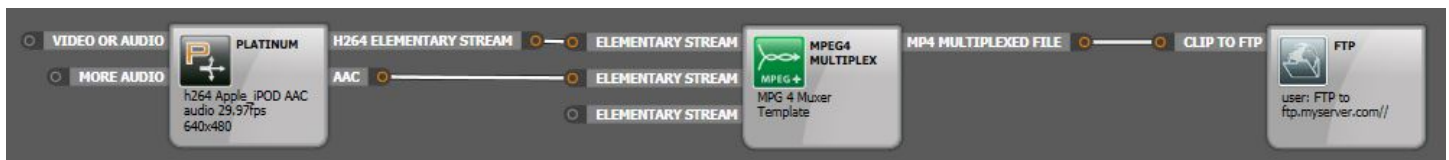

Figure 49 - Workflow - MPEG4 Multiplexor

3.7.7 Flatten MOV

This takes QuickTime MOV file and flattens it, equivalent to a Save As from QuickTime Pro. The parameters cannot be directly edited. If trims have been set on the clip, they will be obeyed. If your source is a QuickTime reference file, this will create a self-contained QuickTime movie.

Note: ProRes QuickTime files are NOT supported as a source for this node. This will generate an audio-only output.
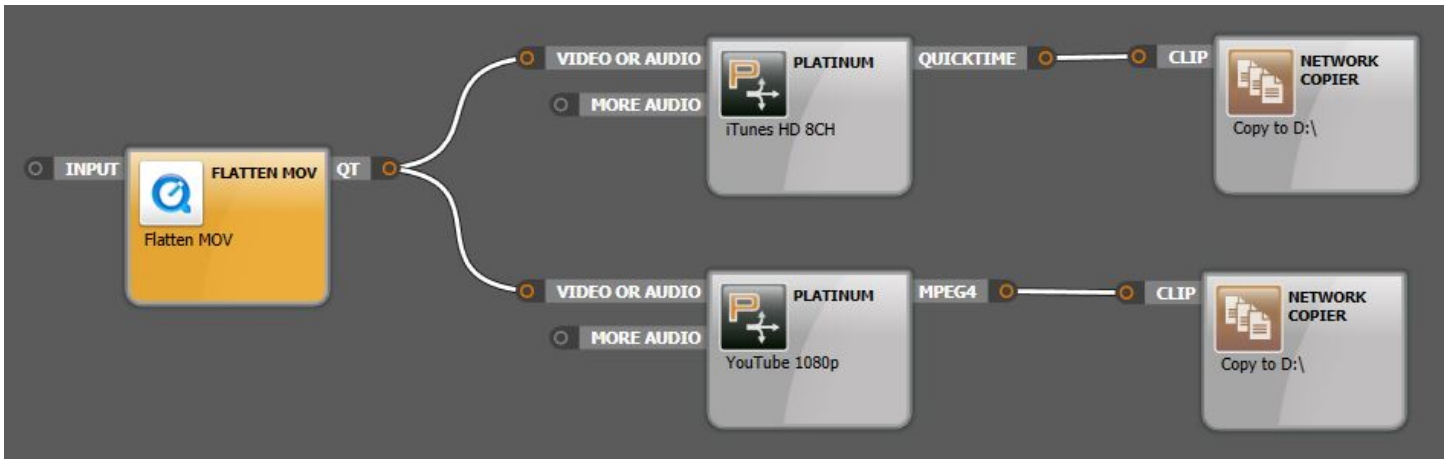
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Figure 50 - Flatten MOV

3.7.8 Re-multiplexer

Designed to re-multiplex or rewrap media into different formats. As opposed to a standard transcode process, here you can simply repackage the file without touching the audio and video essences. Output options include Op1a MXF, MPEG, QuickTime MOV or MPEG4.

- wrap MXF based camera cards into a single clip by stitching clips together to create a new OP1a MXF clip (without the need to perform a transcode). For example with a P2 AVC-50 based camera card, a single AVC-50 OP1a clip can be created.
- supports the rewrapping of QuickTime DNxHD .mov files into Op1a MXFs.
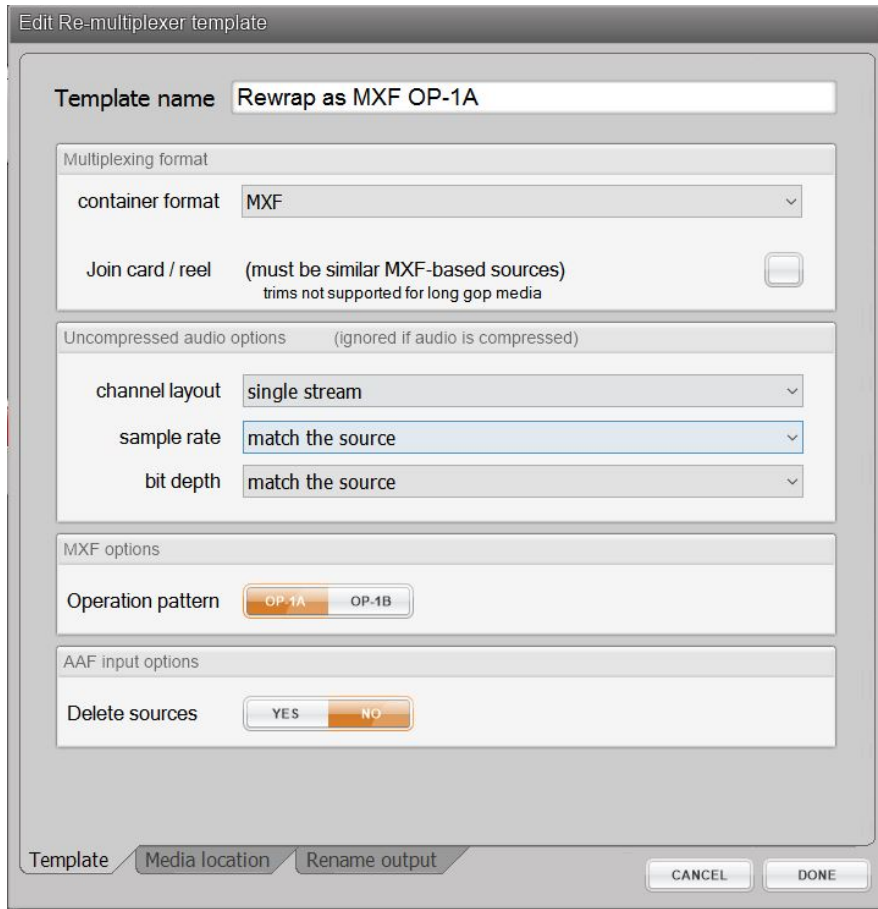- Create Op1b MXFs from AVC LongGop material

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Figure 51 - Re-Multiplexor

Usage

For example, use this node's functionality to create a DNxHD OP1a clip. Within a workflow simply create and Avid DNxHD Platinum node, and make sure an AAF output pin is set. Then add a Re-multiplexer node and a network copier node. When this workflow is run, the source file will be encoded as DNxHD and then wrapped as an OP1a MXF.

Figure 52 - Workflow - Re-Multiplexor

3.7.9 MXF Essence Extractor

This processor allows you to extract video and audio essence files from Material Exchange Format (MXF) files.

By default, the node will extract all essence files. If you wish to select individual essences, video only, for example, check the **Specify Tracks to Extract** box**.** Once ticked, you have the ability to **Load Sample File,** and once loaded, individual essences will be displayed on the in the Tracks to Extract pane. Configure the template using a mouse left-click to select individual files or **Ctrl** + left-click to select multiple files. Double-click in the **Template name** box to auto name the template.
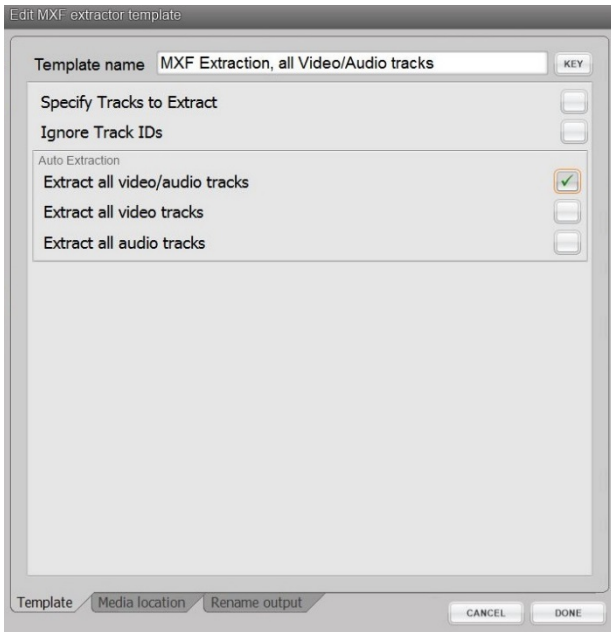
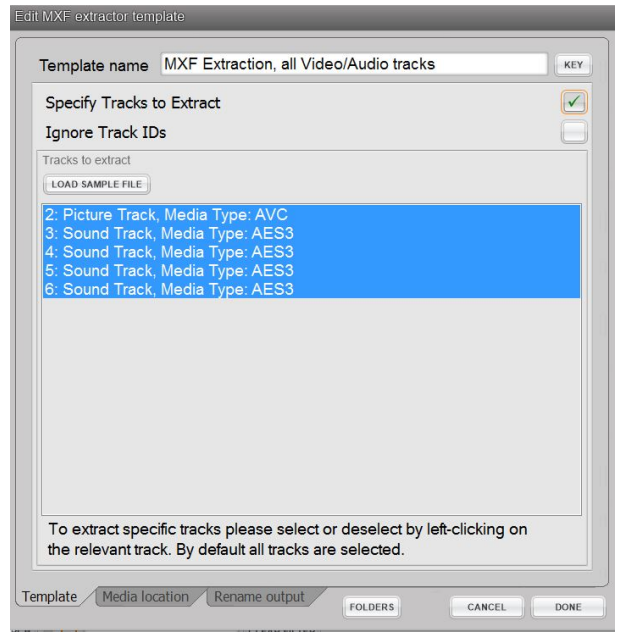*Figure 53 - MXF Essence Extractor - All tracks*

Figure 54 - MXF Essence Extractor - Specific Tracks

Usage

While individual usage will vary, one possibility would be to extract the original essences and create new MXFs with specific audio tracks, e.g.:
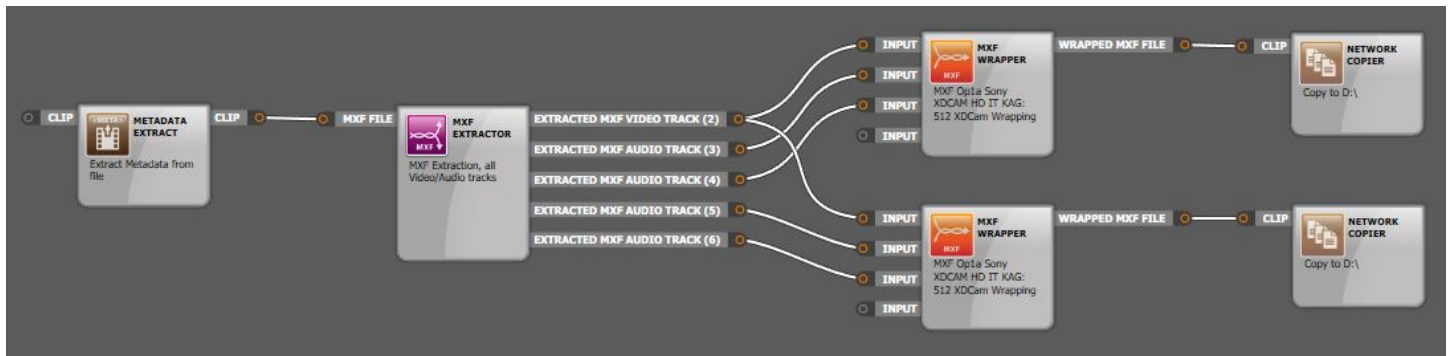

Figure 55 - Workflow - MXF Essence Extractor

3.7.10 MXF Wrapper

Use this node to create Op1a MXF files from either elementary or pre-wrapped MXF sources.

Options are provided to select the output **File type, Create** an **index table, Enable reverse play** etc. If you are interested in this output format, you should find the template creation pop-up self-explanatory.

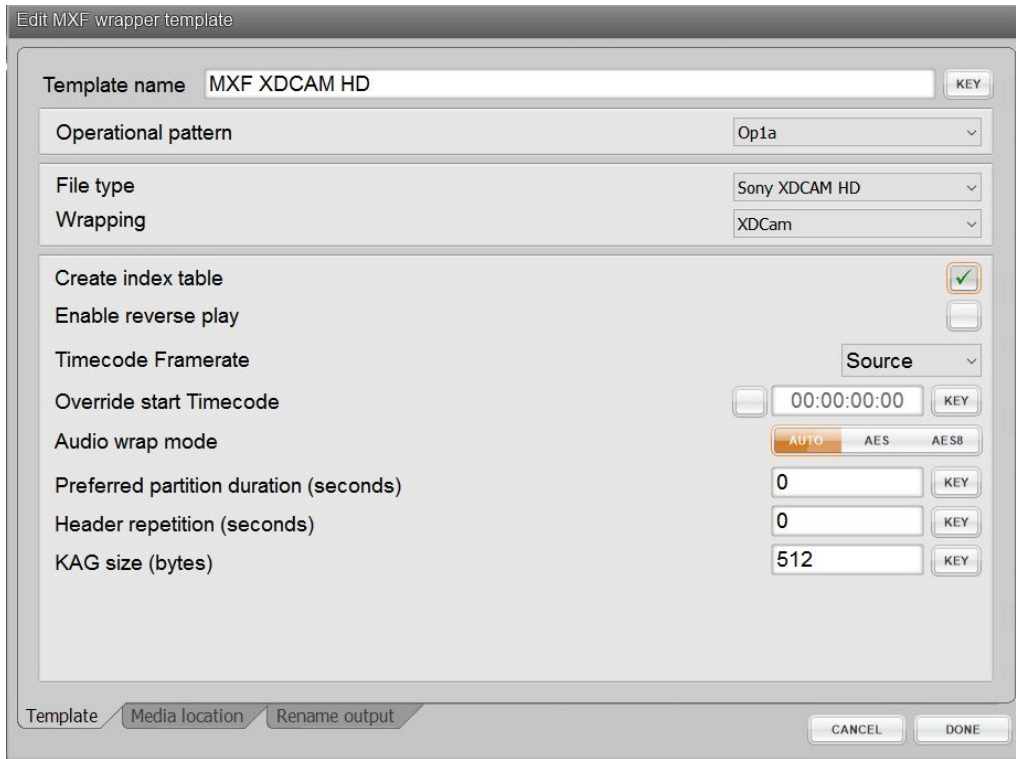telestream

Figure 56 - MXF Wrapper

Usage

For example, create MPEG2 Video and PCM Audio streams via Platinum, and automatically rewrap using this node:
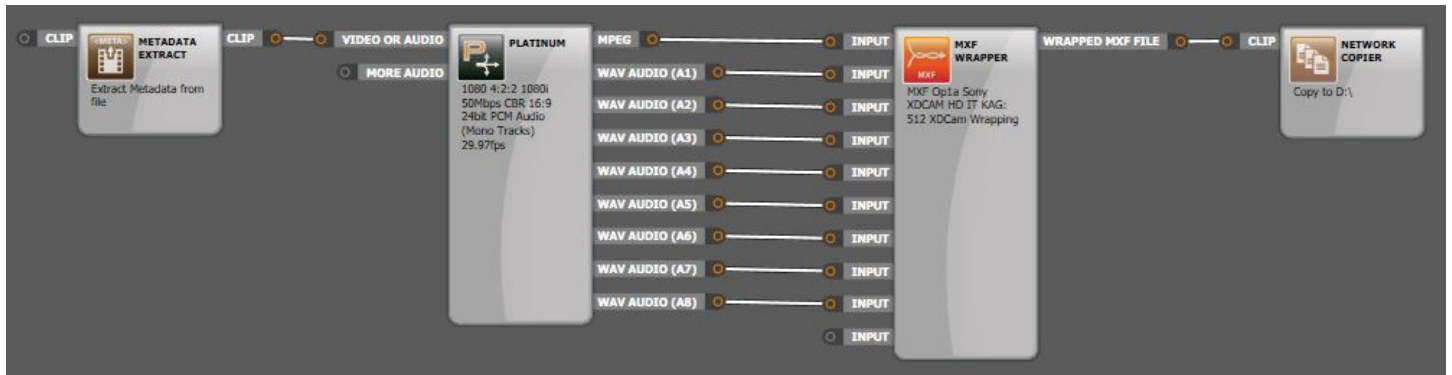

Figure 57 - Workflow - MXF Wrapper

3.7.11 OPAtom MXF Wrapper

Take Op1a MXF or elementary audio/video streams and rewrap or wrap as an Avid-compatible OPAtom MXF file.
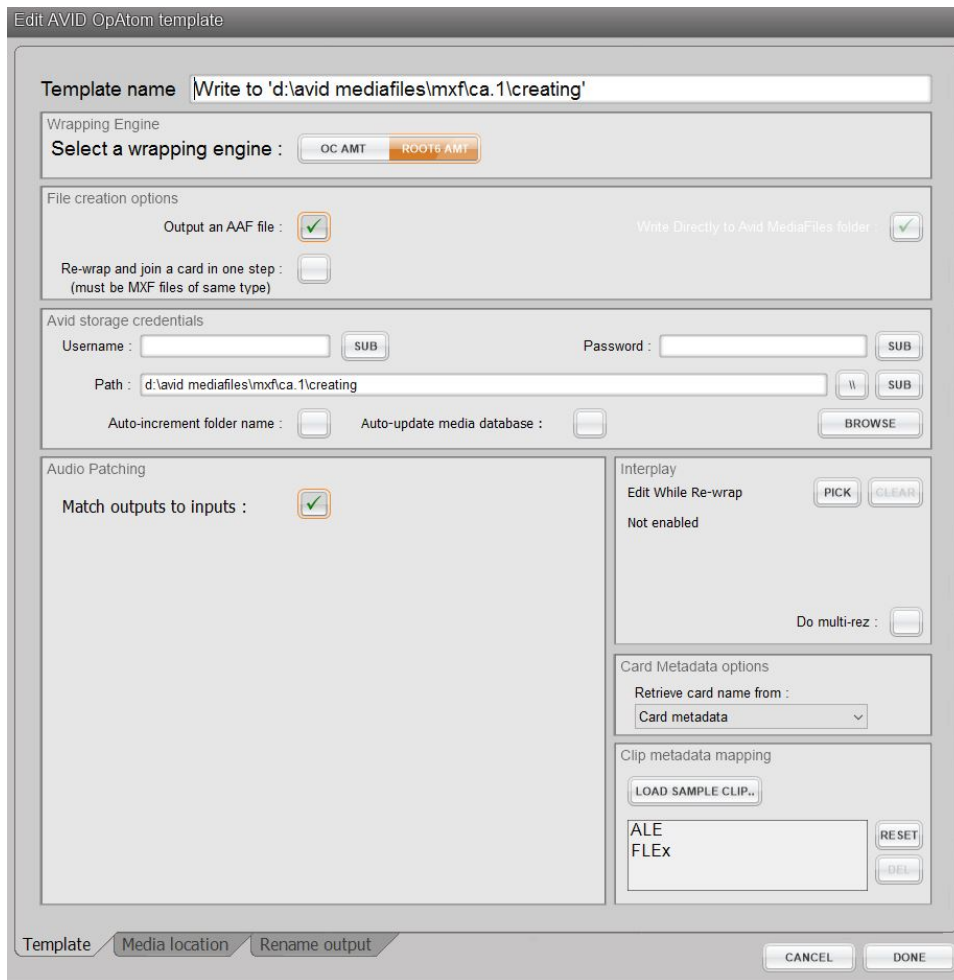
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Figure 58 - OPAtom MXF Wrapper

File creation Options

a. **Create AAF** – output an Advanced Authoring Format file on output. This .aaf can then be imported directly into your Avid bin, or checked directly into an Interplay PAM system. This option should usually be selected, unless alternative non-standard workflows are intended.

b. **Re-wrap and join a card in one step**– this will take all incoming files (e.g. a camera card structure) and output a single OPAtom MXF. Locators will be added and clip in/out points. Note that all source must be MXF files of the same type. The name of the output clip will be that of the reel/card.

Avid Storage Credentials

i) **Path** – this is where the .mxf files will be written. You must set your Destination PATH appropriately here. ContentAgent will write media DIRETCLY to this location, and the resultant AAF will reference this location. Generally, this will be an Avid MediaFiles folder, e.g. \\AVID-VSD\Workspace\Avid MediaFiles\MXF\1. ContentAgent will automatically make a Creating folder there within, for temporary file creation, and will move these into the folder path above once transcodes are complete.

ii) **Auto-increment folder name** – use this option to avoid folder item limits. If your destination folder item count reaches 5000 files, it will auto-create a new folder with .1, .2 etc... appended to the folder name.

iii) **Auto-update media database** – a very useful feature if Interplay is not present. Select this option to automatically update the Avid Media Database. ContentAgent will create (or append to) a .pmr file

within the folder, which will negate the need for individual Avid stations to scan for new media. Media will me immediately 'online' once the rewrap completes

Audio Patching

By default, ContentAgent will maintain source audio configuration. By unticking the 'Match outputs to inputs' box, you will be presented with a channel mapping interface allowing you to customize the audio configuration/mapping. Set your number of inputs and outputs accordingly, and proceed to map which inputs should go to which outputs by selecting an intersection.

Interplay

If you have an Interplay PAM system, these options may be useful for you:

a. **Edit While ReWrap**– use this to check your clip into Interplay as soon as rewrapping begins, allowing editors to begin working on it prior to rewrap completion. Click 'Pick' to choose the Interplay folder for check-in; note that in your workflow you will also need a secondary Interplay Check-in node, coming off the AAF output of this rewrap node, to complete the process.

b. **Multi-rez** – choose this option if you are working in a dynamic relink environment. Within your workflow, any Platinum or OPAtom Wrapper templates that have the Multi-Rez box enabled will be linked as a single clip, sharing the same clip ID.

Card Metadata Mapping

This is an advanced feature for those who are familiar with ContentAgent metadata handling. In summary, this section allows you to override the default metadata groups that will appear as custom columns in Avid. By default, any metadata in the ALE or Flex groups in your source clip will be added as custom columns. To override this, click LOAD SAMPLE CLIP and choose a clip from your Store that has custom metadata.

Data Track Options

Tick the Create Data Track box to pass-through ancillary data, if it exists in the source (e.g. an AS02 card with VANC) or if captions (e.g. an external .scc file) are linked via metadata

Usage

For example, check if the source file is natively Avid compatible and if so, perform a rewrap and if not, perform a transcode to DNxHD, and auto-check into Interplay.
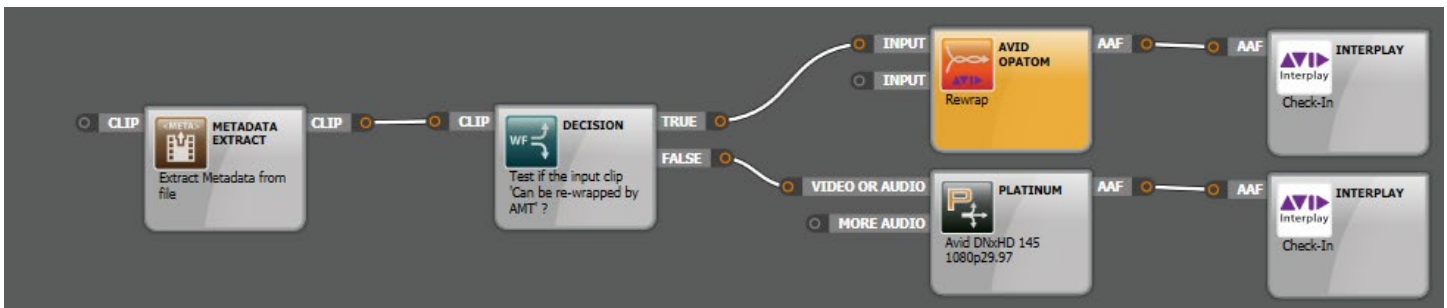

Figure 59 - Workflow - OPAtom MXF Wrapper

3.7.12 AAF Merger

The latest release of ContentAgent features extended support for grouping, consolidating and assembling clip based media into an AAF file. In previous releases, each piece of transcoded media would generate an AAF file, containing one

master clip. This would mean that for a camera card with, for example 10 clips, 10 individual AAF files would be generated.

It is possible to:

- Group all generated master clips into a single AAF file.
- Automatically generate a sequence of the master clips.
- Optionally maintain timecode gaps between master clips in the sequence, for a "time of- day" sequence.

These automated processes significantly reduce common time-consuming tasks typically employed when preparing media for edit and make for easier media management.

Creating a workflow using the AAF Merger node

In this example we will make a simple workflow that creates 2 resolutions of Avid media (a high resolution and low resolution copy) from a camera card, and copies 2 AAF files containing all master clips (one for high resolution media and one for low resolution media) out to a network path ready for importing into a non-Interplay attached Media Composer. The workflow is largely the same for an Interplay environment, except for one or two minor modifications, which will be detailed later.
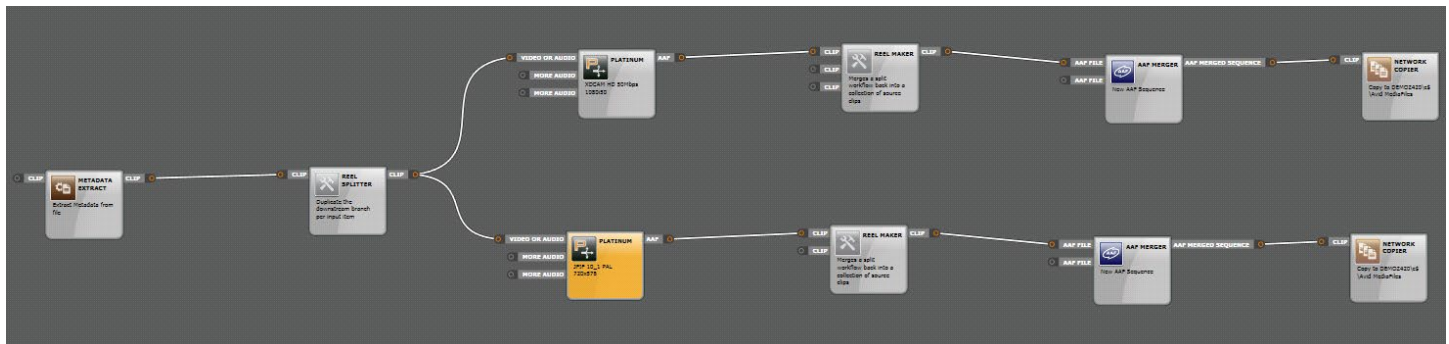
At a high level, the workflow looks like this:

Figure 60 - Workflow - AAF Merger

The workflow contains (from left to right):

- A Metadata Extraction node as normal
- A Reel Splitter node (a new addition)
- 2 Platinum Engine encoder nodes (one for each resolution, should be configured as normal)
- 2 Reel Maker nodes (a new addition)
- 2 AAF Merger nodes (a new addition)
- 2 Network Copier nodes

To detail the new additions to the workflow:

The Reel Splitter node - This forces the workflow to split for all clips within a card or reel to ensure parallel processing across all processing engines and correct merging of clips downstream. Generally, ContentAgent will try to do this automatically for you, but with many different permutations of workflows and combinations of nodes, it is best practice to include this node. One upstream of any number of Platinum nodes will generally be sufficient. You can see the effect this has on your workflow by choosing "Show Workflow Preview" in the jobs queue, on a workflow in progress. It is not possible to edit this node in any way.

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The Reel Maker node - This node performs the opposite action to the Reel Splitter node, and one should be included after each Platinum Engine node. This will group all the newly generated clips together as a single collection, ready to be fed to the following node. It is not possible to edit this node in any way.

The AAF Merger node - The node consolidates all the clips to a single AAF file, and optionally makes a configurable sequence. The editable options for this node are as follows:
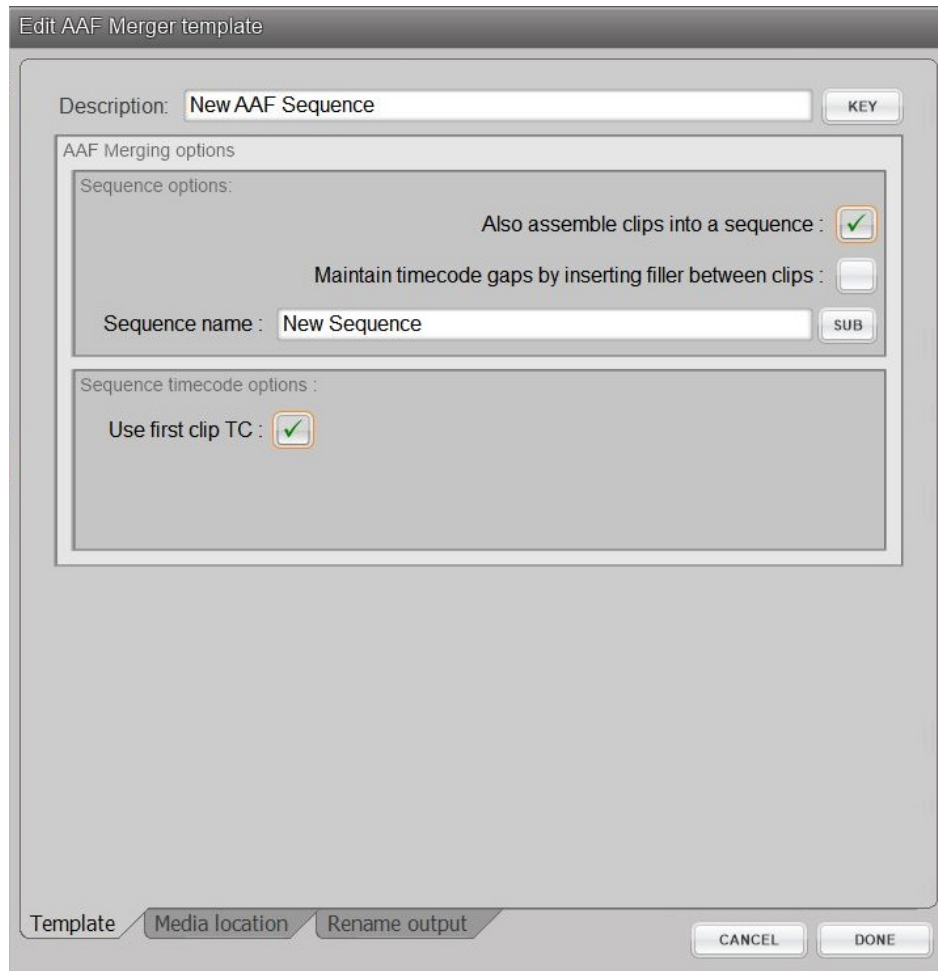

Figure 61 - AAF Merger – Clip TC

The following options are configurable:

Also assemble clips into a sequence - This will create a sequence of all the master clips received by the node. If left unchecked, the single created AAF file will contain all the master clips received by the node, but no sequence. In the above example, this would mean a master clip for each clip on the camera card, in a single AAF file, making for easier media management and importing

Maintain timecode gaps by inserting filler between clips - This will add filler to pad timecode gaps between clips for a "time-of-day" sequence. This is only filler metadata within the AAF and does not generate or store any "black frames" on disk.

Sequence name - This is the name of the sequence and will appear alongside the sequence when imported into a bin. Standard metadata substitutions such as camera card name, times, dates, and any other metadata values can be included in this field.

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Use first clip TC - This forces the start timecode of the sequence to be that of the first clip (in the instance, the timecode of the first clip on the card). If left unchecked, the following options are available:
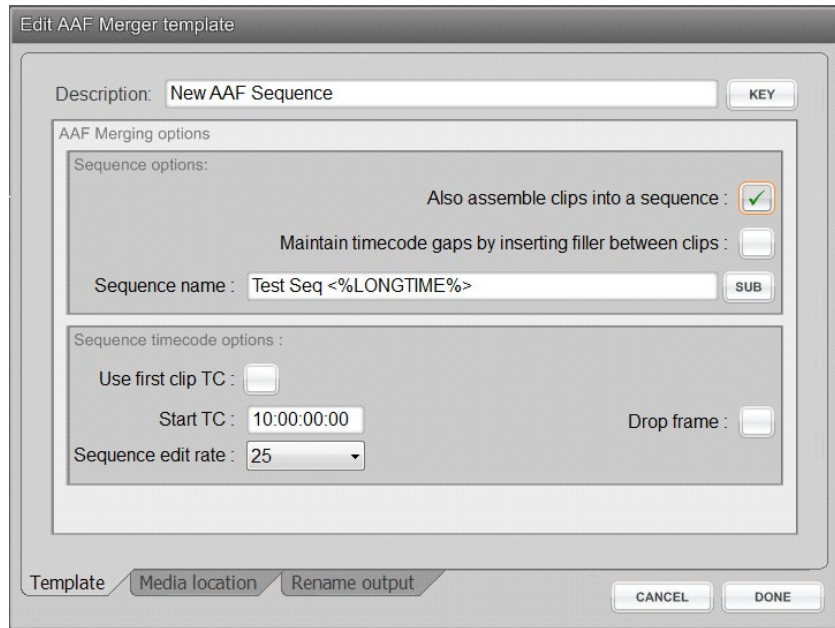

Figure 62 - AAF Merger - Custom TC

If creating multiple resolutions of media, it is generally only necessary to have "Also assemble clips into a sequence" checked on one AAF Merger node (typically for the low-resolution media).

Once the above workflow has been run, two AAF files will be generated (one for each resolution).

When one file is imported into a bin, with the above options configured, the bin view in Media Composer should look like so:
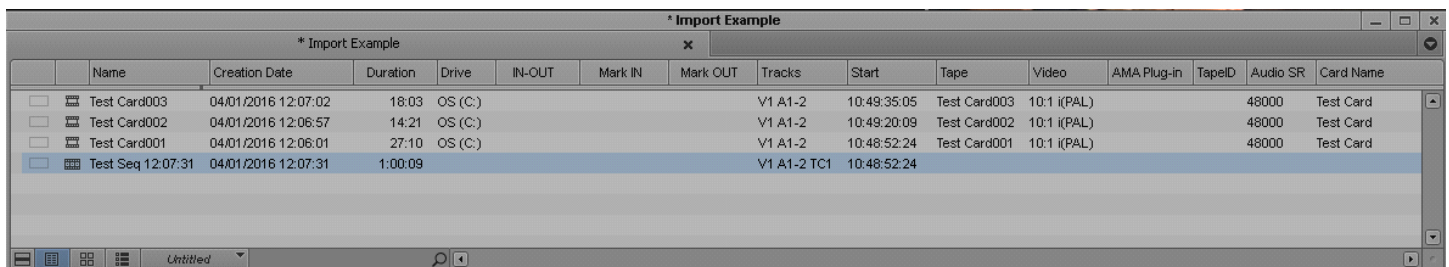

Figure 63 - AAF Merger - Avid MC Bin

Modifying the workflow for import in Avid Interplay

Ostensibly, the workflow for importing the created master clips and sequence(s) into Avid Interplay is very similar, and any instances of the network copier node can be replaced with the Interplay Check-In node, as shown below:
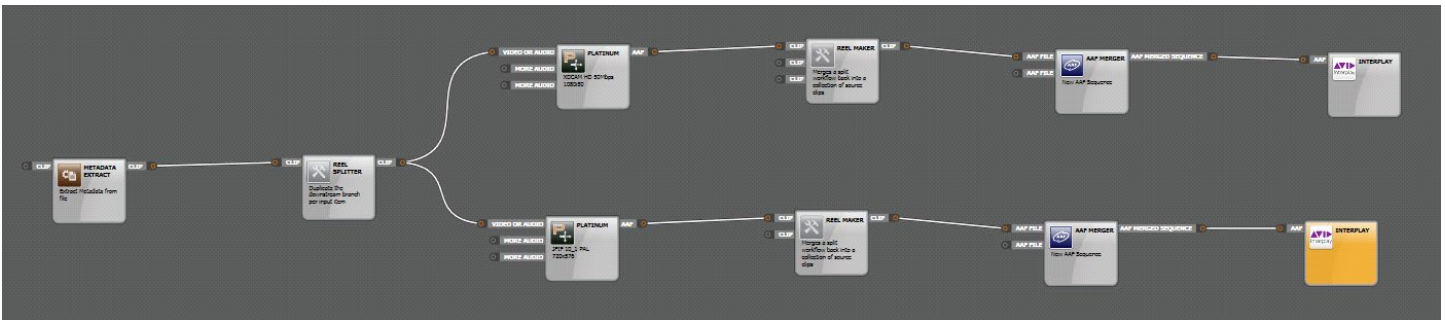
Figure 64 - AAF Merger - with Interplay

However, in the above workflow, due to the way Avid Interplay's Web Services allows ContentAgent to interact with it, no thumbnails will be generated for the individual master clips.

To also generate thumbnails for the master clips, the workflow should be modified to also include an Interplay Check-In node after one of the Platinum Engine nodes, as shown below:
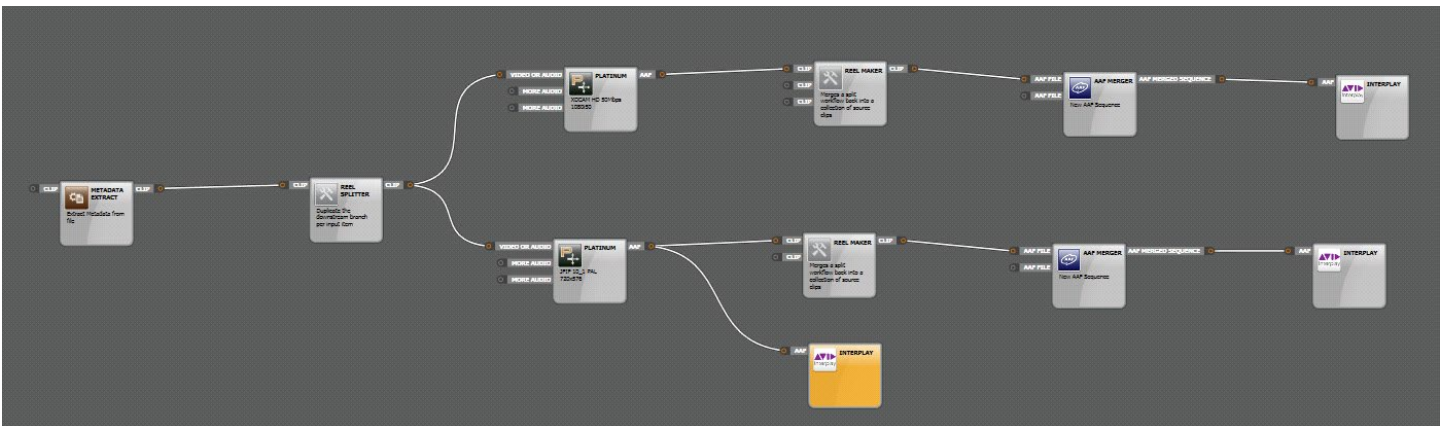

Figure 65 - AAF Merger - Interplay with Thumbnails

3.7.13 DVD/BD Authoring

This enables templates created in the DVD authoring window to be used to create DVD ISO files containing any number of chosen clips, and templates for the Rimage disc publishing system. Note that these templates can only be edited within the **Burn Disc** authoring window. With templates available, drag the **DVD/BD Authoring Plugin** task into the Workflow Designer workspace. You will be presented with a list of DVD authoring templates; pick one to place it in the workflow workspace. Now select **Add Clip** (at the foot of the window) and choose the clips that you wish to include in the ISO file. As you link the output of each clip to the input of the Authoring node, a new input is created, enabling you to assign as many clips as you want. Link the clips in the order you want them to play out, starting from the top. Graphics may also be added — for example, you might want to insert a company logo between each clip.

Note that, if metadata has not already been extracted from clips that you pick for authoring, you must add the **Metadata Extractor** node (see page **3- 28)** between the output of each clip and the input of the authoring node.

To complete your workflow, add a destination folder with the **Store Item** task. When you **Submit** the workflow, a **DVD Disc Archive** file will be saved to your chosen folder. ISO files provide a neat way of compiling show reels etc. that can be stored, copied within the system, and burned to disc at any time.

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Creating a DVD Authoring Template

Unlike other ContentAgent templates, a disc-authoring template ONLY can be created/edited from the Burn Disc tab. This requires a compliant file (MPEG2 for DVD) to be available in advance.

1. Navigate to the Burn Disc tab, and select the disc type you wish to create (in this example we will use DVD)

2. Pick a pre-existing DVD compliant MPEG-2 file (there are several Platinum templates which can create this particular file type):

3. Once you have picked your file, click on the 'Author' button on the bottom left hand side of the screen (this button will be greyed out until you select a compliant file from the 'Store'

4. This will take you to the authoring screen. Once you have selected your Navigation options, menu background, button style, etc. ensure that the 'Demux Sources' button is checked:

5. Alternatively, you can save this authoring page as a template and use it as part of a workflow:
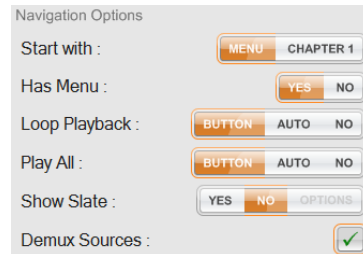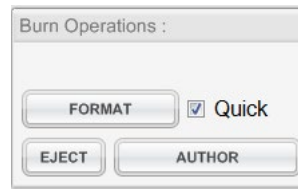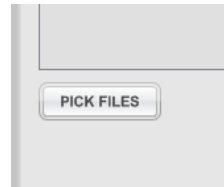
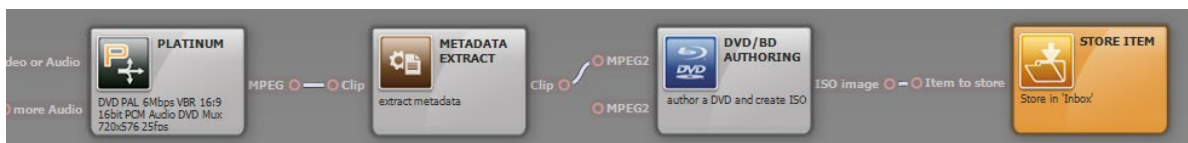A typical DVD authoring workflow will look like this:

Figure 66 - Workflow - DVD Authoring

You can also replace the 'STORE ITEM' with a 'NETWORK COPY' node if you wish to copy the ISO to a location outside of ContentAgent.

Using the Rimage plugin to automate disc labelling and burning

Setup:

a) Ensure that you are successfully connected to your Rimage system from within Settings->Rimage

b) There should be a shared folder on your Rimage system called ContentAgent, with write access.

1. Using Rimage CDDesigner, create a new label. Set any text field that you want to be replaced, as a 'merge field'. Save and exit. E.G.
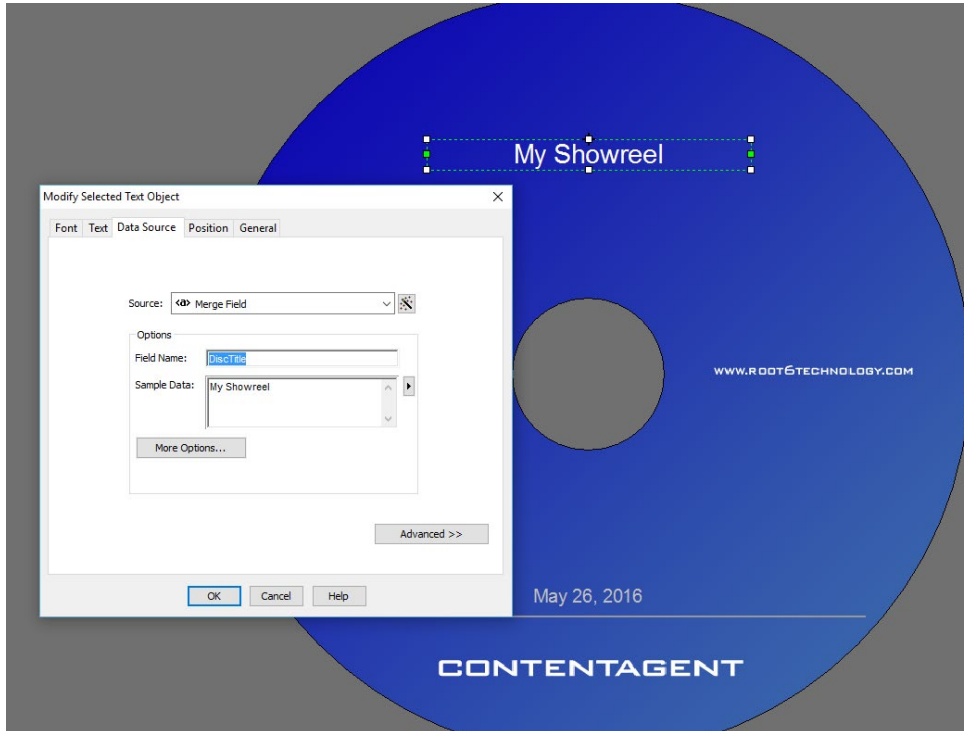

Figure 67 - Rimage Disc Label

> ***NB to make any direct changes to the label you will need to have Rimage CD Designer installed locally.***

2. Import this label (.btw) into ContentAgent.
3. Go to the Burn Disc tab, choose DVD->Video, and click PICK FILES to select a DVD compliant MPEG2
4. Click Author to bring up your menu options.
5. Under DVD Drive Utilities, choose Rimage as your burner
6. At the bottom right, click PICK to choose your imported label
7. Click EDIT METADATA MAPPING. Here you can choose which metadata fields are replacing your merge fields. On the left hand side, choose the relevant label field (representing any field set as a 'merge filed' within the label), then on the right hand side enter the field contents. E.G:
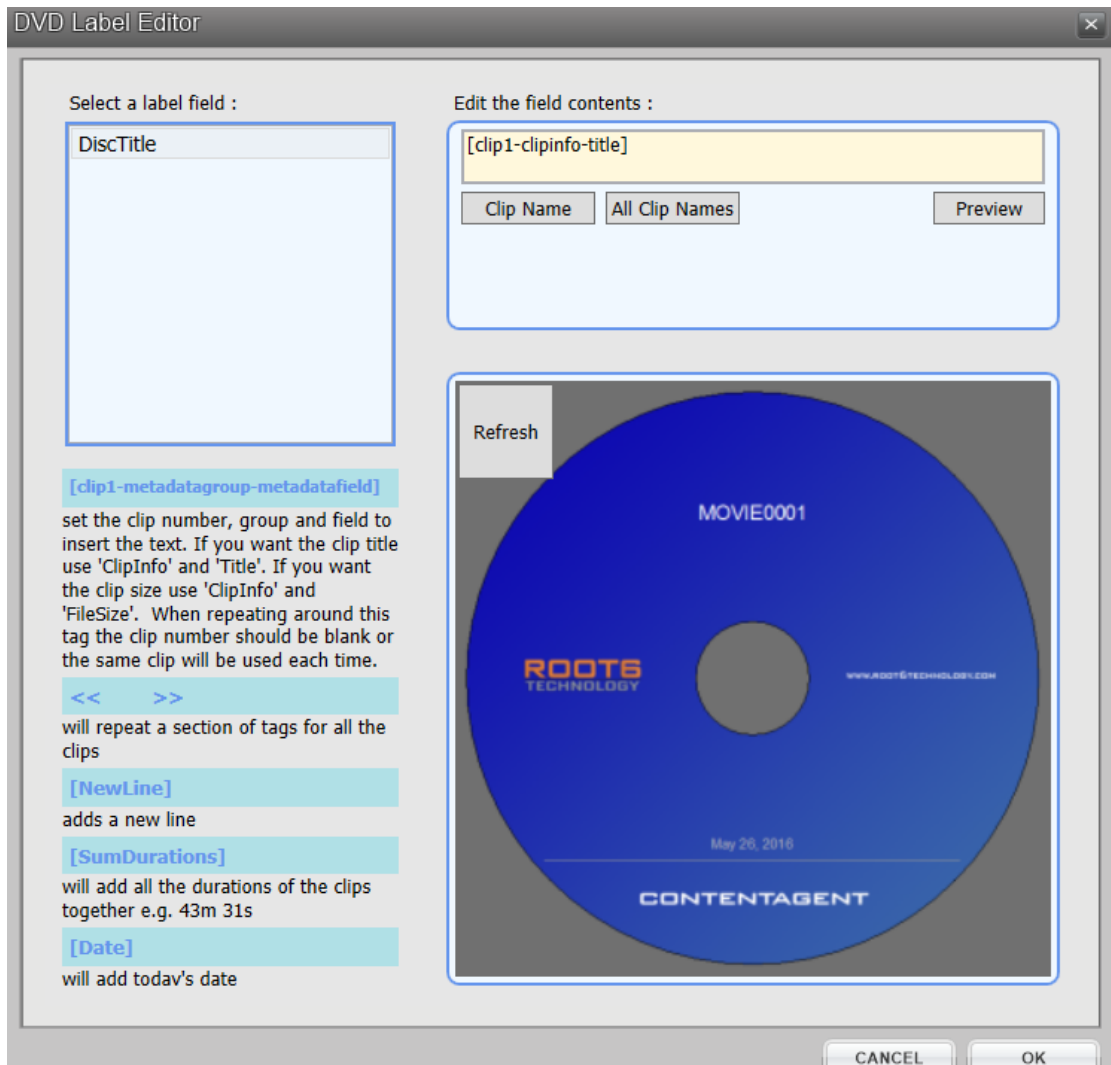
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Figure 68 - Disc Label Metadata Mapping

8. . Close this window, then when back in the Authoring window, click Save As template. You can then drop this template into your DVD workflow

3.7.14 Baton Verification

The quality control of file-based video imported from different sources, encoded at different bit rates/formats and utilizing different compression standards, presents considerable challenges to media management teams. Baton from Interra Systems is a fully automated system for verifying/checking file-based content prior use. For example, if missing frames, data corruption, audio levels, black frames count etc. do not meet your required criteria, then Baton will report an error. This optional facility comprises a rack-mounted processor and a browser-based job monitor display. Contact Telestream (Contacting Telestream) for more information.

The **Baton Verification** node enables the Baton process to be used in a ContentAgent workflow by means of a default or customized template.

Ensure that you are successfully connected to you Baton system by navigating to Settings->Baton

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A number of standard 'profiles' are provided, based on the most common production requirements. If you see what you want, select that profile then double-click in the **Template name** box to enter a default name. Alternatively, click on the **Create** button to create your own profile(s). This requires you to log into the Baton system with a Username and Password (provided when you purchase the Baton system). Once logged in, you can enter parameters for your new profile. Note that, when you purchase a Baton system, an Interra representative will take you through the system and all its functions.

Once you have selected a default or newly created profile, you can decide whether you want to wait until the Baton process has complete before the rest of the workflow tasks are carried out. Once the Baton process has finished, metadata is generated to provide a verification result with three categories — Success, Error or Warning, and the **Decision** node (see page 3-29) can then be used to implement further actions according to the verification result. In this case, check the **Hold workflow until job completes** box. If you need the job to complete quickly, do not check this box. Baton will still process the file and you can review its integrity and any errors later.
Set the required **Job Priority** to **Low, Medium** or **High.** It is recommended that this be normally set to **Low** so that Cerify will not delay workflows unduly. Use **Medium** or **High** in exceptional circumstances, for example, where a batch of files need to be processed for a short deadline transmission.

Finally, you will notice a **Status** indicator that confirms that your Baton system is online. If present, a Baton system will be represented on the **External** tab display, linked to ContentCentral.

Note there is also a **Baton Verification** entry in the **Settings** menu.

3.7.15 Cerify Verification

The quality control of file-based video imported from different sources, encoded at different bit rates/formats and utilizing different compression standards, presents considerable challenges to media management teams. Cerify from Tektronix is a fully automated system for verifying/checking file-based content prior use. For example, if missing frames, data corruption, audio levels, black frames count etc. do not meet your required criteria, then Cerify will report an error. This optional facility comprises a rack-mounted processor and a browser-based job monitor display. Contact Telestream (Contacting Telestream) for more information.

The **Cerify Verification** node enables the Cerify process to be used in a ContentAgent workflow by means of a default or customized template.
Ensure that you are successfully connected to you Cerify system by navigating to Settings->Cerify

A number of standard 'profiles' are provided, based on the most common production requirements. If you see what you want, select that profile then double-click in the **Template name** box to enter a default name. Alternatively, click on the **Create** button to create your own profile(s). This requires you to log into the Cerify system with a Username and Password (provided when you purchase the Cerify system). Once logged in, you can enter parameters for your new profile. Note that, when you purchase a Cerify system, a Tektronix representative will take you through the system and all its functions.

Once you have selected a default or newly created profile, you can decide whether you want to wait until the Cerify process has complete before the rest of the workflow tasks are carried out. Once the Cerify process has finished, metadata is generated to provide a verification result with three categories — Success, Error or Warning, and the **Decision** node (see page 3-29) can then be used to implement further actions according to the verification result. In this case, check the **Hold workflow until job completes** box. If you need the job to complete quickly, do not check this box. Cerify will still process the file and you can review its integrity and any errors later.

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Set the required **Job Priority** to **Low, Medium** or **High.** It is recommended that this be normally set to **Low** so that Cerify will not delay workflows unduly. Use **Medium** or **High** in exceptional circumstances, for example, where a batch of files need to be processed for a short deadline transmission.

Finally, you will notice a **Status** indicator that confirms that your Cerify system is online. If present, a Cerify system will be represented on the **External** tab display, linked to ContentCentral.

Note there is also a **Cerify Verification** entry in the **Settings** menu.

3.7.16 Field Order Analysis

This analyzes the field order in five sections of the selected clip, i.e. whether it is upper-field first, lower-field first or progressive. Parameters may not be edited directly. This will populate the *Field Order (Actual)* metadata field. Place in workflow after your Metadata Extract node.

3.7.17 Add TC metadata

Use this processor to add, modify or override timecode on an incoming clip. Note that these changes will only apply if the clip is then transcoded or rewrapped using ContentAgent.
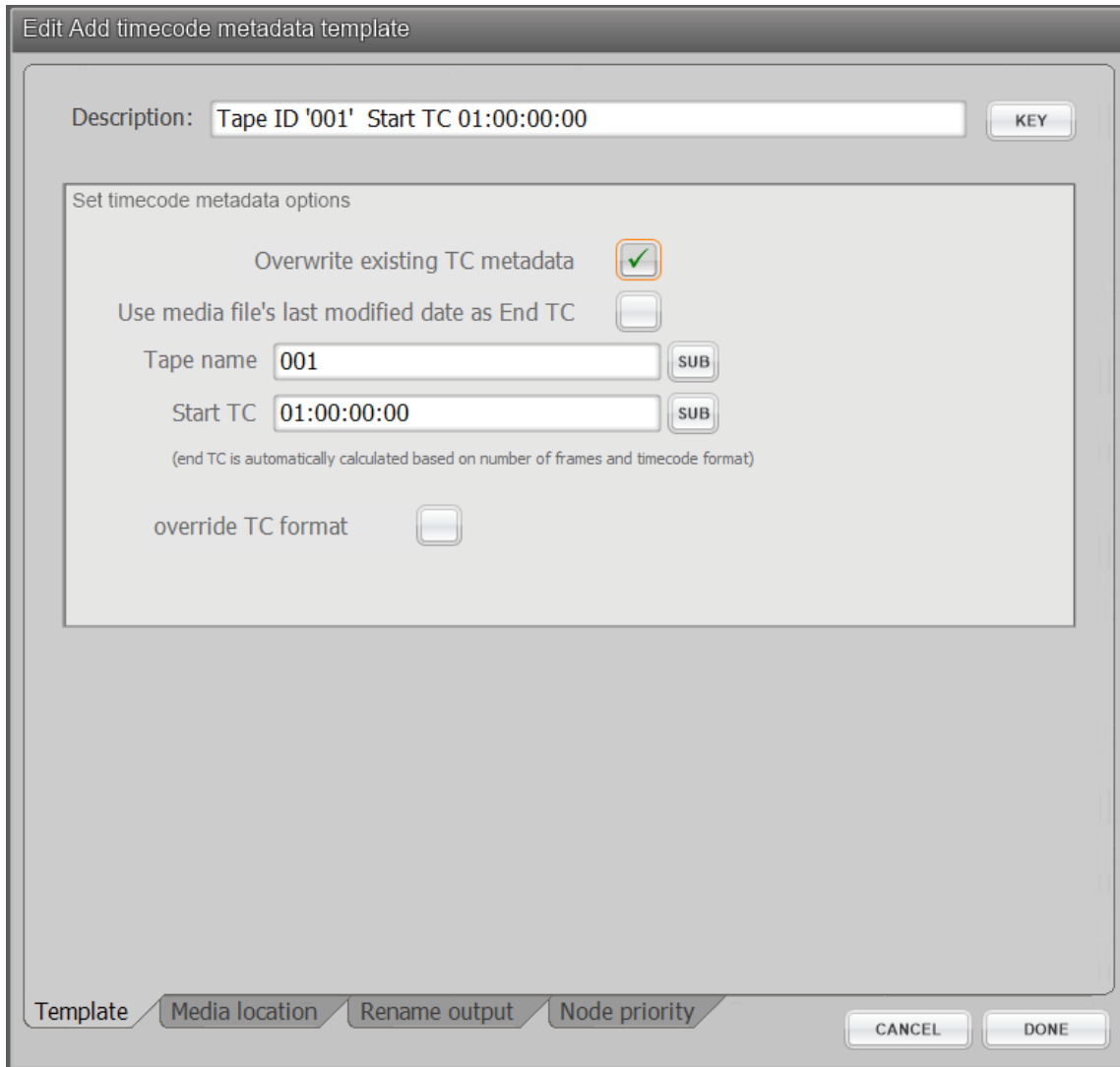
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Figure 69 - Add TC Metadata

Overwrite existing TC Metadata – tick this box to replace any existing Timecode metadata with that specified within this template.

Use media file's last modified date as End TC – rather than designating a specific start timecode, tick this box to automatically insert the start timecode calculated backwards from the file's last modification time.

Tape Name – Populate with a custom tape name. Note, this field cannot be left blank. Use the SUB button to derive the tape name from metadata.

Start TC – Type in a custom start timecode in the format HH:MM:SS:FF . Use the SUB button to derive the Start Timecode from custom metadata.

Override TC Format – If you need to change the format of your timecode metadata, tick this box then choose a specific framerate from the dropdown menu.

Usage:

For example, start with a Metadata Extractor to check if the source clip has timecode, and then follow with an Add TC Metadata node to add relevant timecode to all incoming clips. Follow this with the encode(s) of your choice using the

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Platinum Media engine. In the case below, we are creating low-res and high-res Avid media, which will now have matching Timecode!
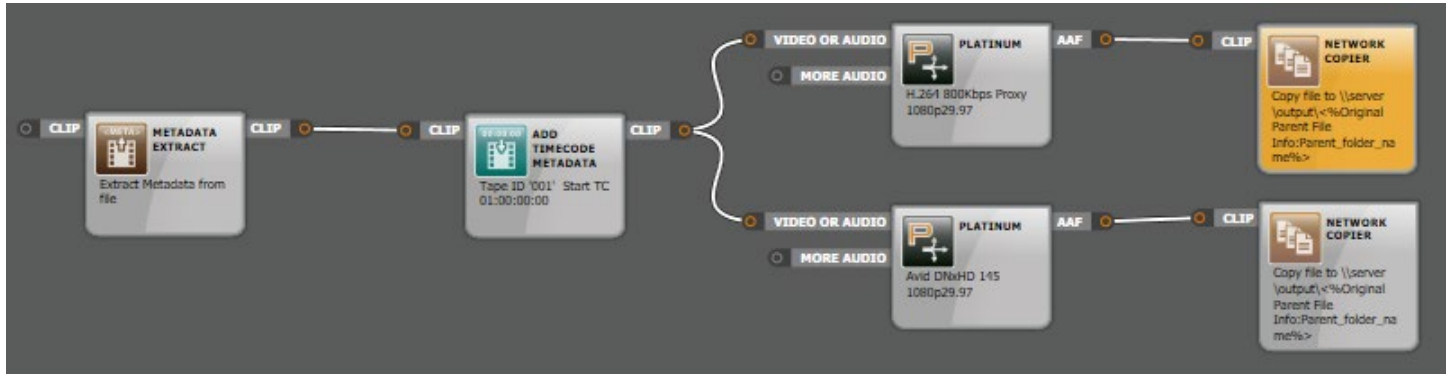

Figure 70 - Workflow - Add TC Metadata

3.7.18 NexGuard

Insert this node into your workflow to specify forensic watermark information, pulled from your NexGuard Key Manager, for application during transcode.

Prerequisites

- NexGuard Manager installed externally to the ContentAgent system but accessible to it.
- 32 bit NexGuard Forensic Marking SDK installed on one or more JobAgents including a NexGuard SDK license file with keys matching those known to the manager (External or Dual) and at least one license token.
- ContentAgent NexGuard option license for ContentAgent.

System Configuration

SDK configuration/checking on the JobAgent node(s)

The 32 bit NexGuard Forensic Marking SDK is usually installed to "C:\Program Files (x86)\Civolution\ForensicMarkingSDK\ia32\bin". Verify the existence of the install folder.

Check that the install folder is included in the PATH environment variable.

From a command prompt with elevated permissions (as Administrator), execute "YUVEmbedderSanityCheck.exe". This will check the correctness of the PATH variable and the state of the SDK. Review the output for any errors and confirm the licensed keys match those shown in the NexGuard Manager and the SDK version is at least 6.0.1.

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Figure 71 - NexGuard - YUVEmbedderSanityCheck.exe example output

Figure 72 - NexGuard Manager Keys

ContentAgent configuration

Before you can create NexGuard enabled workflows in ContentAgent, you must configure the global NexGuard settings. Access the global settings via the "SETTINGS" button in the bottom right corner of the ContentAgent UI. Select "NexGuard" from the list of settings in the left pane.

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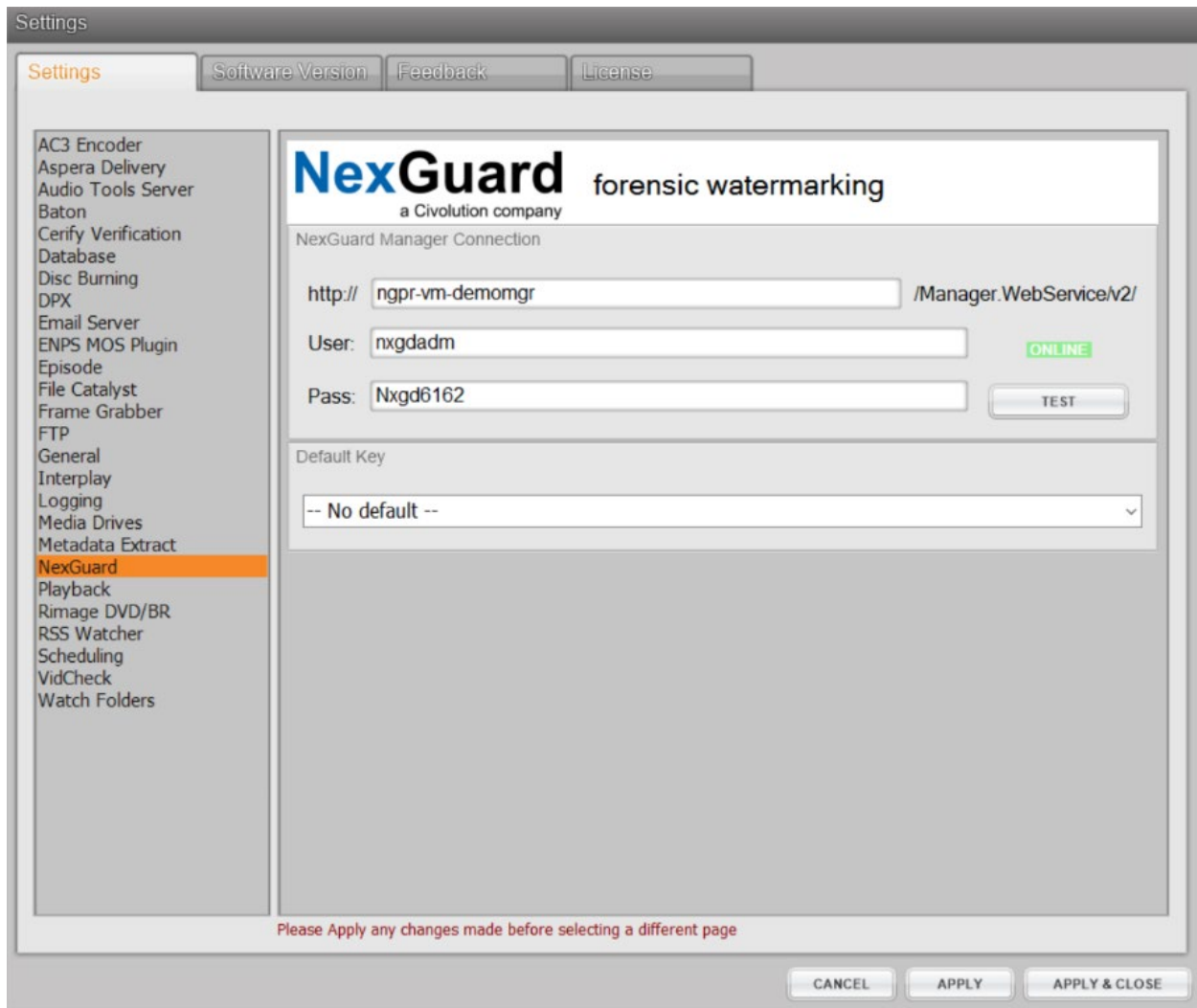
Figure 73 - NexGuard global setting in ContentAgent

The global settings allow you to configure the base location of the NexGuard Manager API and user credentials for communicating with the API. The "TEST" button provides a means of quickly checking the validity of the location and credentials.

Once the status "ONLINE" is displayed, the "Default Key" drop down will be populated with keys available on the manager. Selecting a default key is optional. Selecting a default key will control the initial key selection in any new NexGuard workflow nodes.

Creating a NexGuard workflow

A minimal NexGuard workflow consists of a NexGuard node, which is responsible for creating a new job on the NexGuard Manager, a Platinum Transcoder node, which actually applies the watermark to the source video, and a post-transcode action such as adding the new file to the "Store" or copying the file to a network location.

Figure 74 - Workflow - NexGuard

NexGuard node configuration

The NexGuard node communicates with the NexGuard Manager to create a new job when the workflow is run. The node template allows the selection of "Customer", "Recipient" and "Title" metadata from the existing NexGuard Manager database.

The NexGuard node is available in the "Examine" section of the node palette in the Workflow Editor. The node has tabs for the selection of "Customer", "Recipient" and "Title" metadata, which is read from the NexGuard Manager database. The filter box on each tab makes it easy to quickly locate the required entry.

The "Key" tab allows for explicit selection of the desired watermarking key. If a default key was selected in the global settings, it will automatically be selected otherwise the first available key will be selected.
Double-clicking on the node description will automatically update the description to reflect the selected metadata and key.
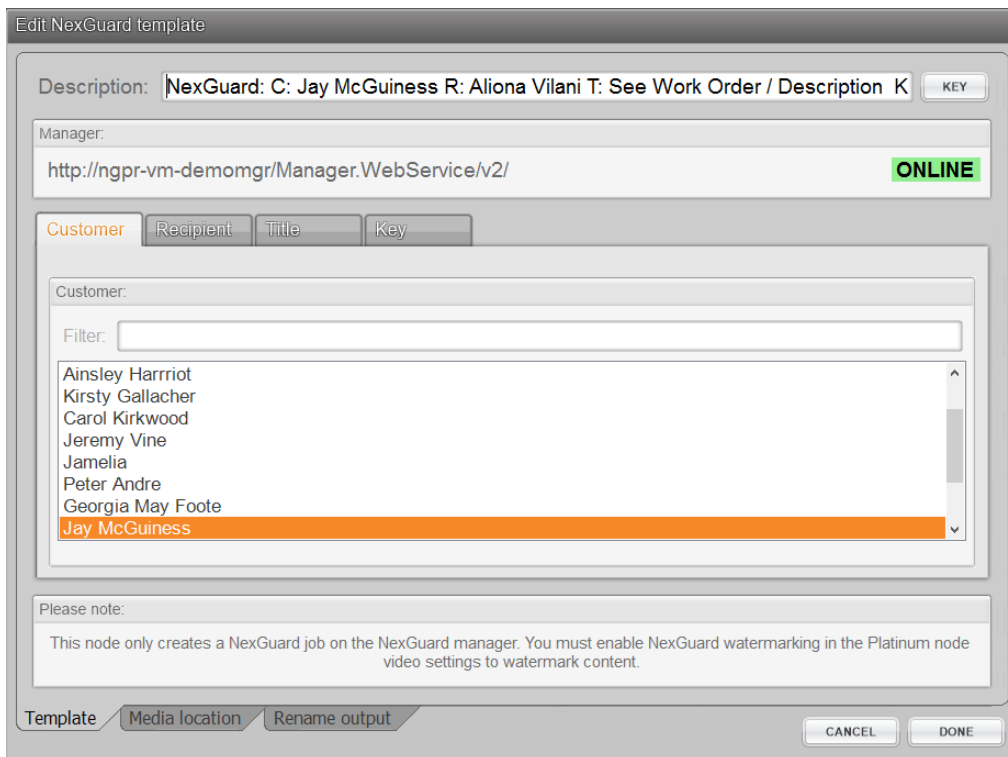

Figure 75 - NexGuard template

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N.B. You must also enable NexGuard watermarking in the Platinum Transcoder node template for NexGuard watermarking to be applied.

Platinum Transcoder node configuration

For the NexGuard watermarking to be applied, it must also be enabled in the "Video" tab of the Platinum Transcoder node.
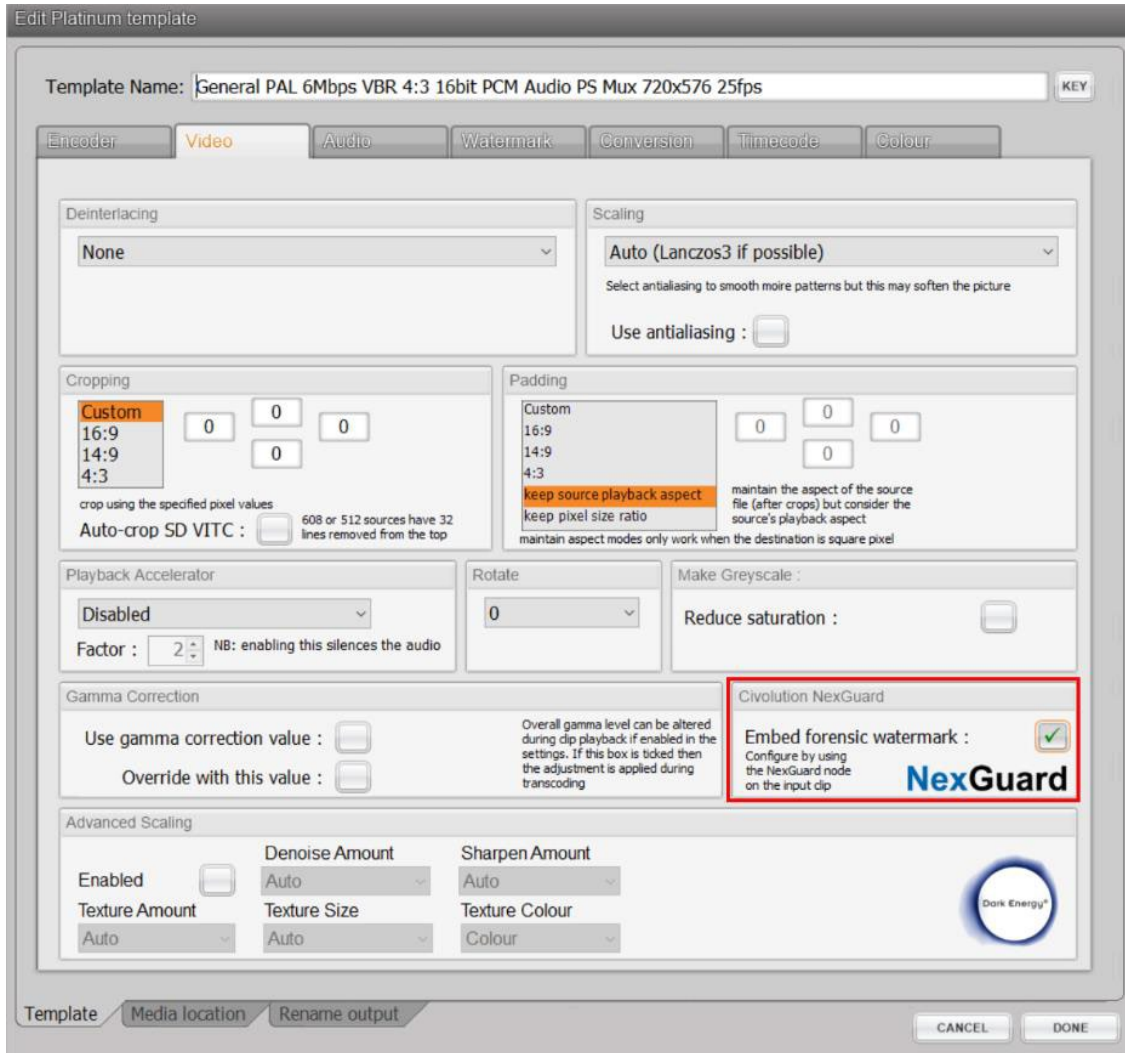
Figure 76 - NexGuard - Platinum transcoder config

N.B. Just enabling NexGuard watermarking in the Platinum Transcoder template is not sufficient to apply the watermark. There must be a NexGuard node upstream of the Platinum Transcoder node.

Workflow validation

Once the workflow is complete, it is a good idea to run a test to verify operation. As the NexGuard watermark is invisible, ContentAgent provides several visual indications that NexGuard watermarking is actually being applied as part of the Platinum transcode.

Right clicking the transcode preview window in the ContentAgent "Store" tab, and selecting "Show Job Info", will show NexGuard Job ID, Key and Payload information only if the watermark is being applied.
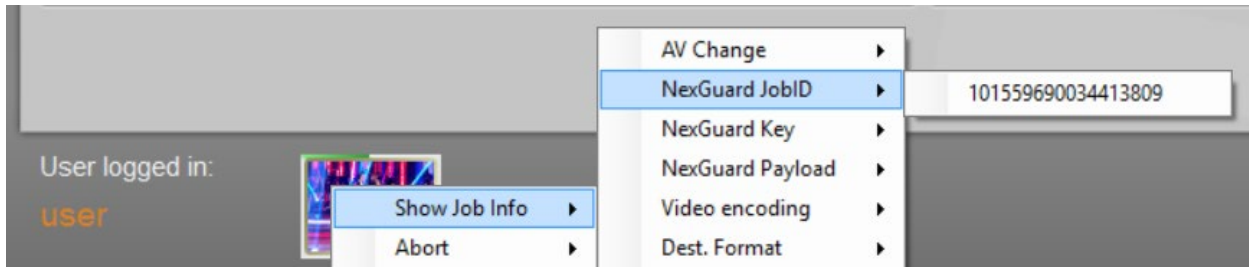
Figure 77 - Transcode preview job info showing NexGuard info

This information is also added as metadata to the clip created by Platinum, within the 'Transcode Info' group (as shown in Figure 78) so it can also be queried via the API and used to drive downstream external processes if required.
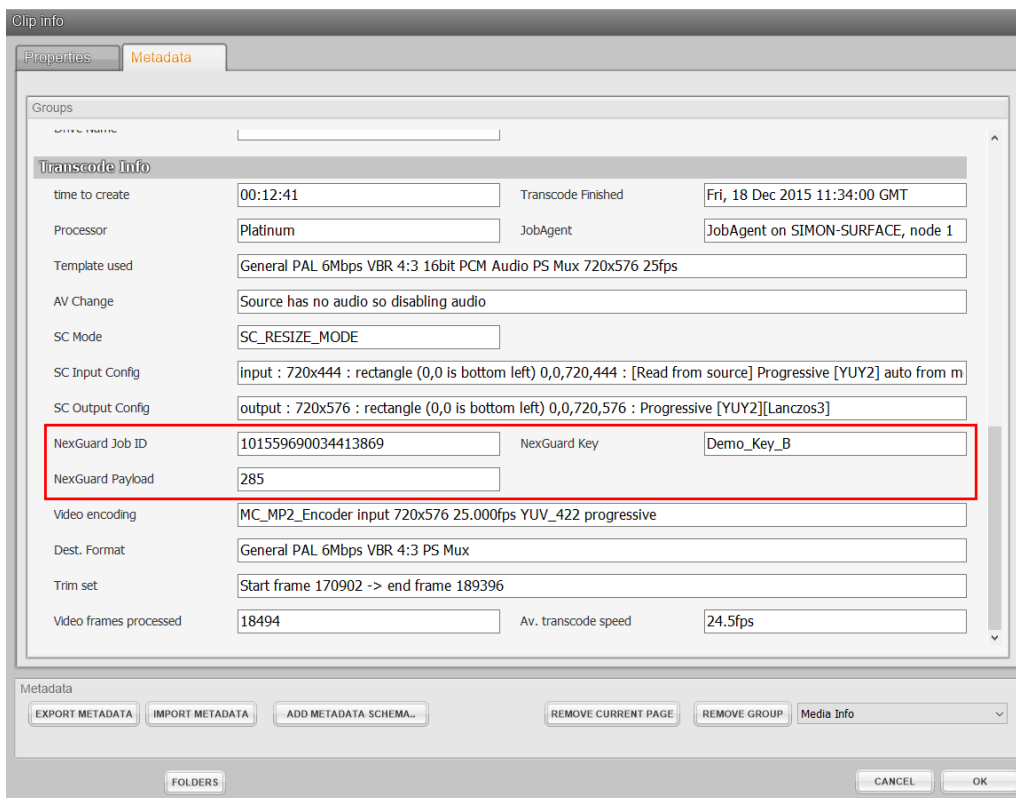
Figure 78 - - Clip metadata showing NexGuard info in transcode info

Further indications are available from the NexGuard Manager UI. When the NexGuard node is executed, a new external job will be created in the NexGuard Manager. When the Platinum Transcoder starts, the job state will be updated to "Processing" in the Manager UI. If the transcode completes successfully, the job state in NexGuard Manager will be updated to "Finished".

In the event of a user cancelling the job or the transcode aborting or failing the job state in NexGuard manager will be set to "Cancelled" or "Error" as appropriate and the job description will be updated to indicate the issue.

N.B. It may be necessary to refresh the NexGuard Manager UI in order to display updates to the job descriptions.

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Figure 79 - NexGuard Manager UI showing job status and description

Common Errors

Job does not start

Symptom - Jobs stays queued in CA but do not start, nor show up in NexGuard Manager

Cause – The PATH variable does not contain the correct information.

Resolution – Refer to the System Configuration section, verify, repeat, and reboot.

New jobs being created in NexGuard Manager but never shown as processing

Symptom – Each time the workflow is executed, new jobs are created on the NexGuard Manager but they only ever show as "New".

Cause – The workflow contains a NexGuard node but the subsequent Platinum Transcoder node does not have the NexGuard watermarking enabled.

Resolution – Enable NexGuard watermarking in the video tab of the Platinum Transcoder node.

Transcode fails: Too short

Symptom – workflow fails at the end of the transcode and the Alerts window in ContentAgent displays a message similar to the one shown in Figure 80.
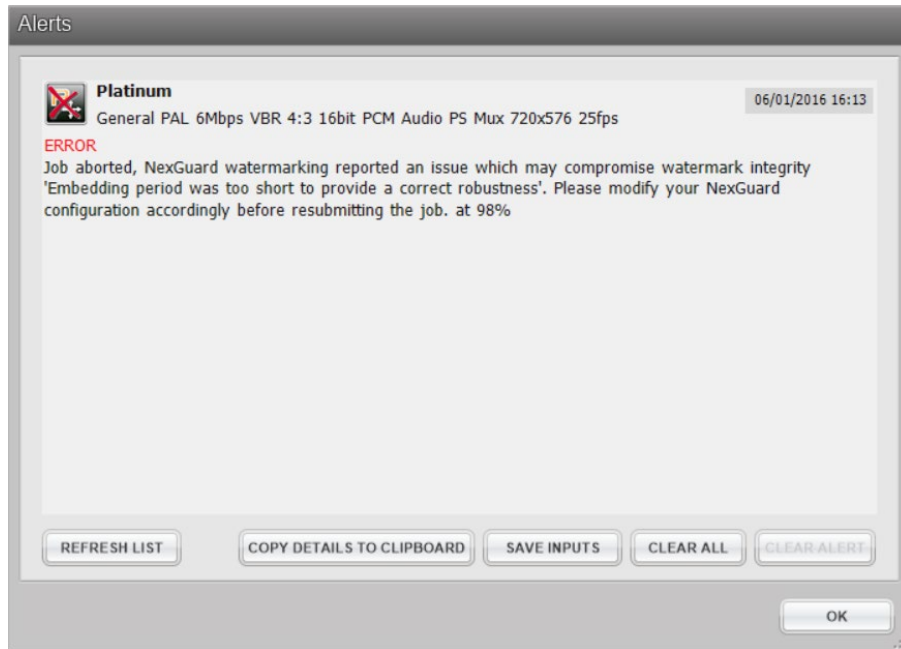
Figure 80 - Watermarking failure due to too short content

Cause – NexGuard watermarking algorithms require a minimum duration in order to ensure that the payload can reliably be recovered. The G1 algorithm requires around 30 seconds of video, the G2 algorithm requires 150 seconds of video. The source being watermarked is shorter than the minimum duration. **Resolution** – Either select an appropriate algorithm or use a longer source. If neither of these are possible, do not attempt to watermark the source.

Transcode fails: Already marked

Symptom – the transcode fails part way through and the Alerts window in ContentAgent displays a message similar to the one shown in Figure 81.

Figure 81 - Watermarking failure due to content already marked

Cause – The source has already been watermarked with the same key. "Overmarking" is only supported when the watermarking key is different from those already used on the source.

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Resolution – Select a key that has not already been used on the source. The message in the Alerts tab of ContentAgent will identify which keys are still available.

Transcode fails: Communication Failure

Symptom – Workflow fails and the Alerts window in ContentAgent displays a message similar to the one shown in Figure 82.
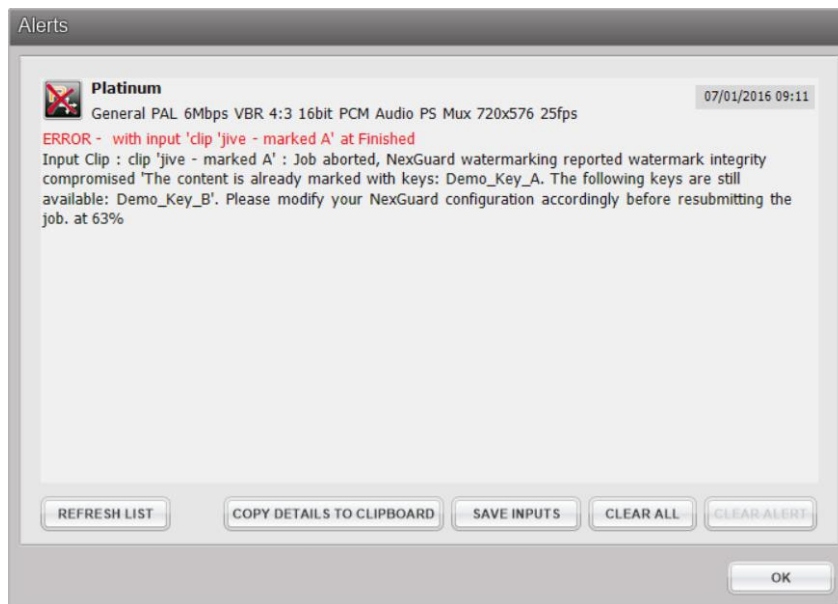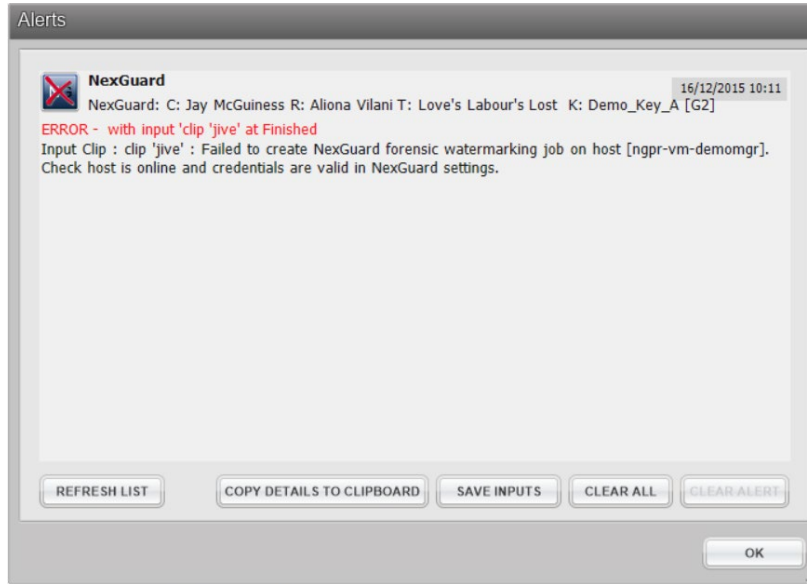

Figure 82 - NexGuard Communication failure

Cause – The NexGuard API is not accessible to ContentCentral or the active JobAgent.

Resolution – Check that the NexGuard Manager is online and accessible via the NexGuard settings in ContentAgent as shown above in ContentAgent configuration.

3.7.19 Decision

The Decision node is a special type of workflow processor that allows workflows to branch out, based on the contents of a specified metadata field in the input clip. This means that a single workflow can be applied to a wider range of source clips, with different results being achievable depending on the metadata information contained with the clips. This can be very handy when combined with workflows using the Watch Folders or optional QC processors, or with the QuickWF list.

When defining decisions based on Media Info metadata or other groups, it is wise to place a Metadata Extractor node before the Decision node to ensure that the required information will be available. When creating a Decision node template, load the source file, and look through its metadata fields. A standard media clip has two types of metadata field — Clip and Flexible Metadata. The Clip Metadata covers standard items such as the Title, Creation Date and File Size. Flexible Metadata is organized by groups, and will contain fields that may be generated during a Metadata Extractor operation, or that are user generated, e.g. through the application of a metadata schema or because the clip was created through an XML file import.

On the template editor pop-up, hit **Load Clip.,** and select the relevant file. Having specified a Metadata Field (select Clip or Flexible Metadata followed by the field), the value for the loaded clip will be displayed so you can have a sense of what to test for with your 'decision'.

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If you need to load a sample reel/card instead, tick the **'Support reel input'** box. The test will then only check the first clip of the reel/card, assuming the rest of the clips maintain similar metadata. Use this method when submitting camera card structures.

When defining a either a match or condition, use | to separate multiple matches for a particular result e.g. 23.98|23.976 will match either of those

In the lower half of the pop-up, build a logical statement that can be:

a) True or False – e.g. "is" the "framerate" "Equal to" "59.94" (Figure 83 next page)
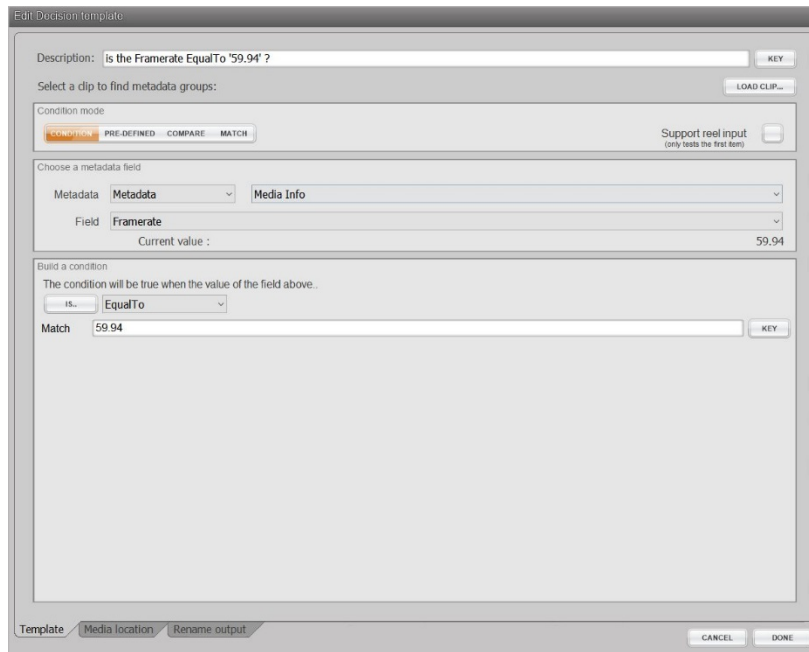
Figure 83 - Decision - True or False

b) Pre-Defined – system operands allowing you to check specific system field, e.g. 'Can this file be rewrapped by AMT?"
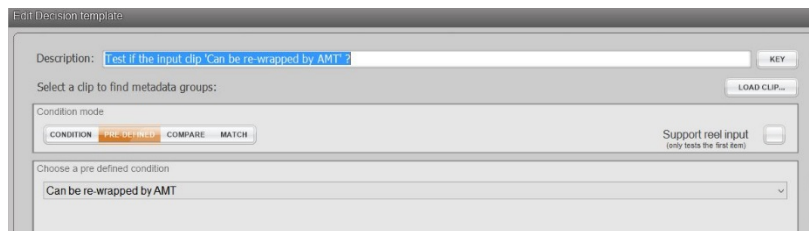
Figure 84 - Decision - Pre-Defined

c) Compare – provides 2 inputs and will compare a specific metadata field between the input files. E.g. "is the framerate of input equal to that of input 2?"
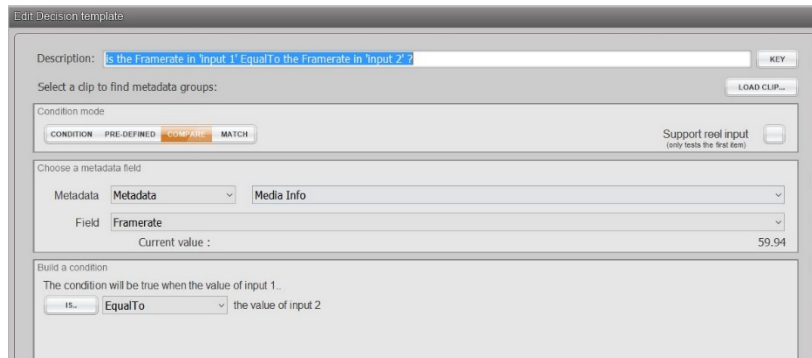
Figure 85 - Decision - Compare

d) Match – check for specific values in the specified metadata field and proceeds down the appropriate branch, depending on which value was 'matched. E.g. Is the framerate is equal to 59.94, proceed down the first branch, if it's equal to 29.97 proceed down the 2nd branch, etc.. Click ADD VALUE to add more match branches.
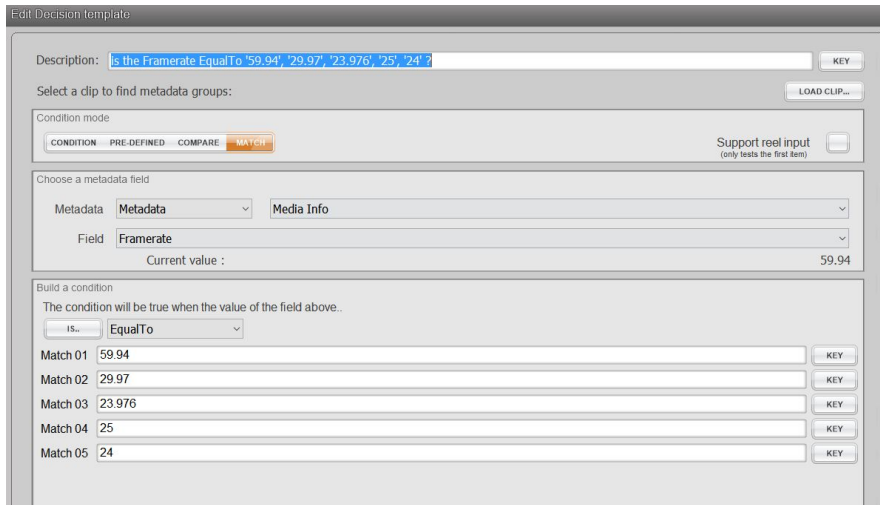
Figure 86 - Decision - Match

Double-clicking in the template Description: box will summarize what ContentAgent thinks you are testing for. If you add this Decision node to the Workflow Designer window, you can then design a workflow that will branch depending on the result of your specified decisions. When you monitor the progress of your workflow in the job queue, you will be able to see graphically how the Decision node controls how branches of the workflow are processed.

Usage
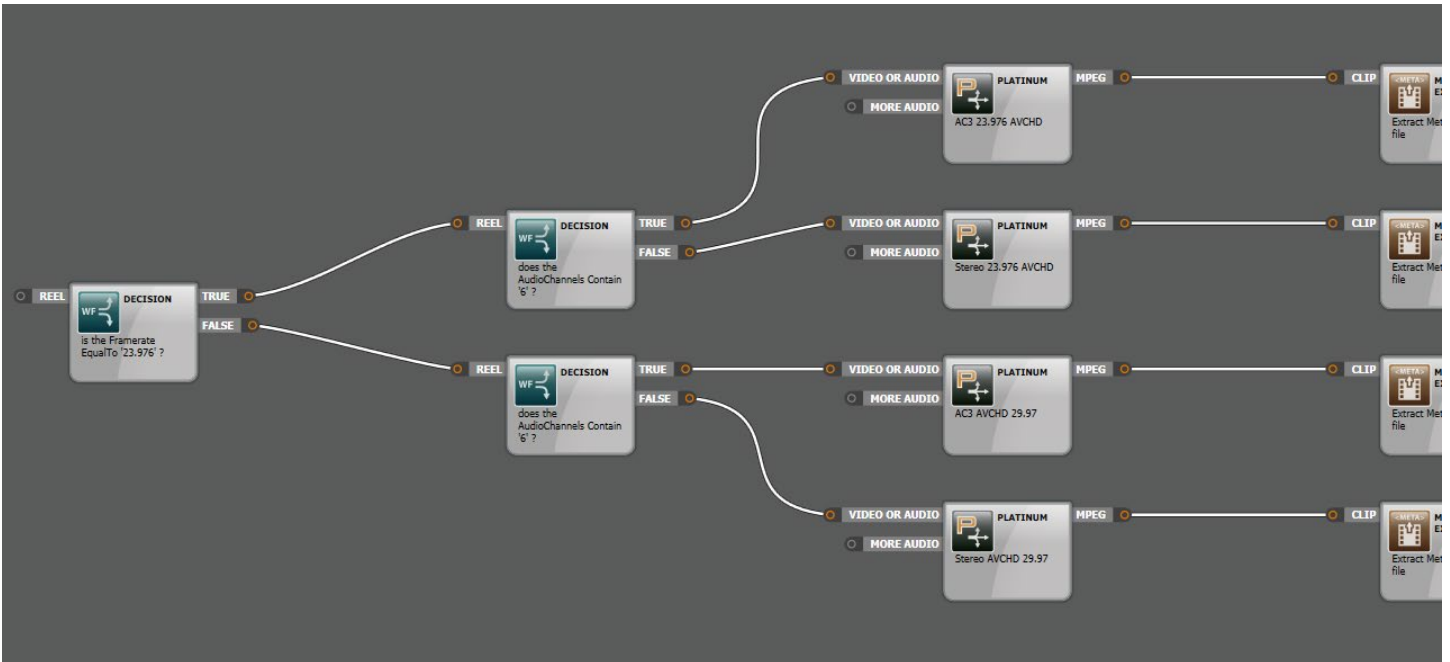
Figure 87 - Workflow - Decision

3.7.20 Frame Rip

This useful node determines which frame of the target clip will be ripped, and whether this frame will be used as a clip header in the store or extracted for use as a graphic. A choice of graphic formats is provided.
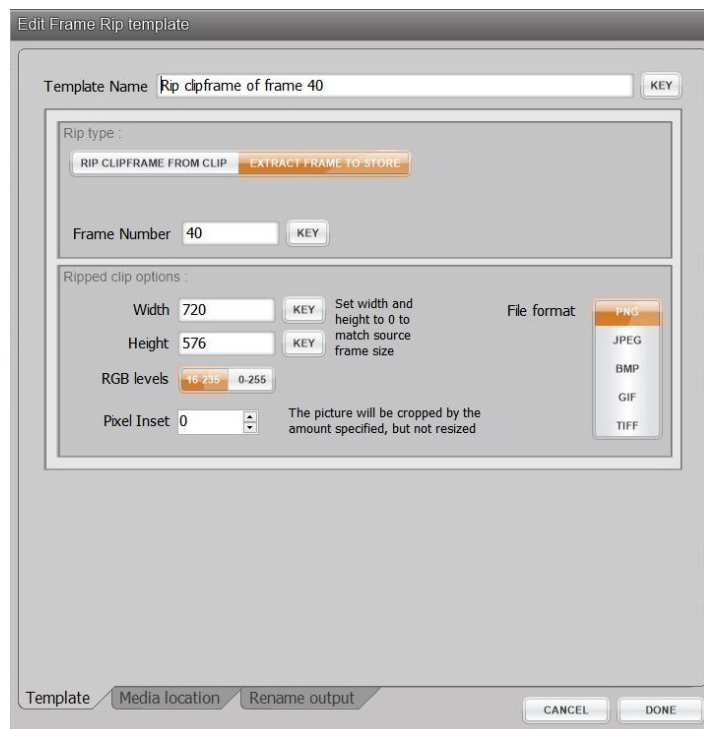
Figure 88 - Frame Rip

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Usage

For example, create a proxy file for upload using Platinum, and at the same time grab a frame to e-mail to the client.
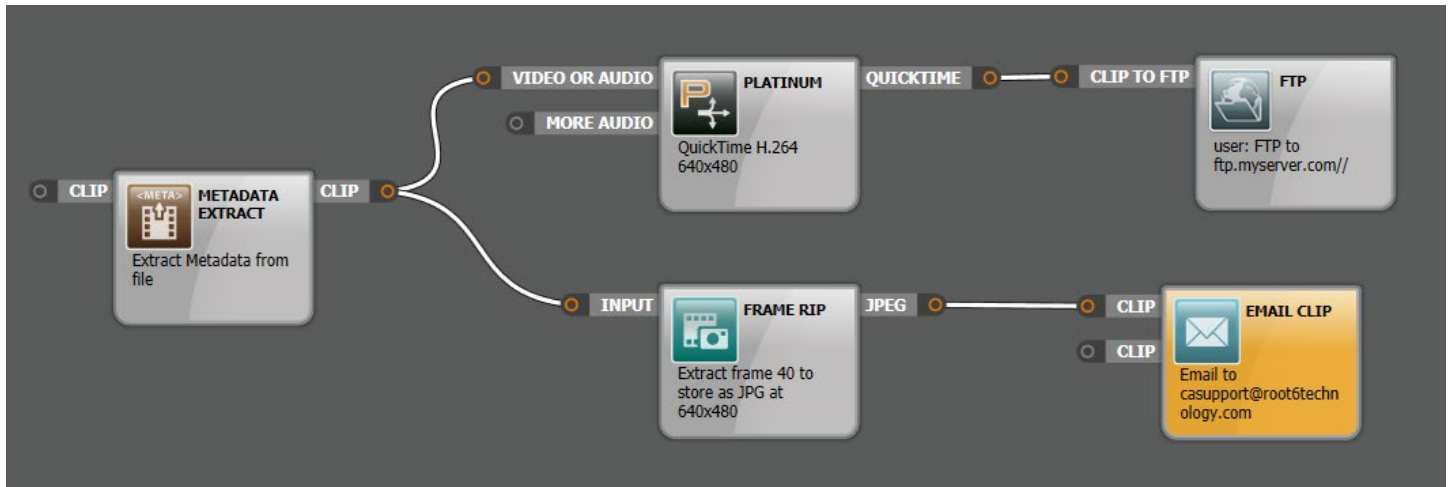
3.7.21 Metadata Extract

This function extracts metadata from a clip before or after transcode process, and stores it in the system database along with the clip information. As this is a predefined task, it cannot be edited.

3.7.22 Reel Splitter

This forces the workflow to split for all clips within a card or reel to ensure parallel processing across all processing engines and correct merging of clips downstream. Generally, ContentAgent will try to do this automatically for you, but with many different permutations of workflows and combinations of nodes, it is best practice to include this node, *unless you are joining clips into a single concatenated clip during a transcode or rewrap*.

One upstream of any number of Platinum nodes will generally be sufficient. You can see the effect this has on your workflow by choosing "Show Workflow Preview" in the jobs queue, on a workflow in progress. It is not possible to edit this node in any way.

Usage
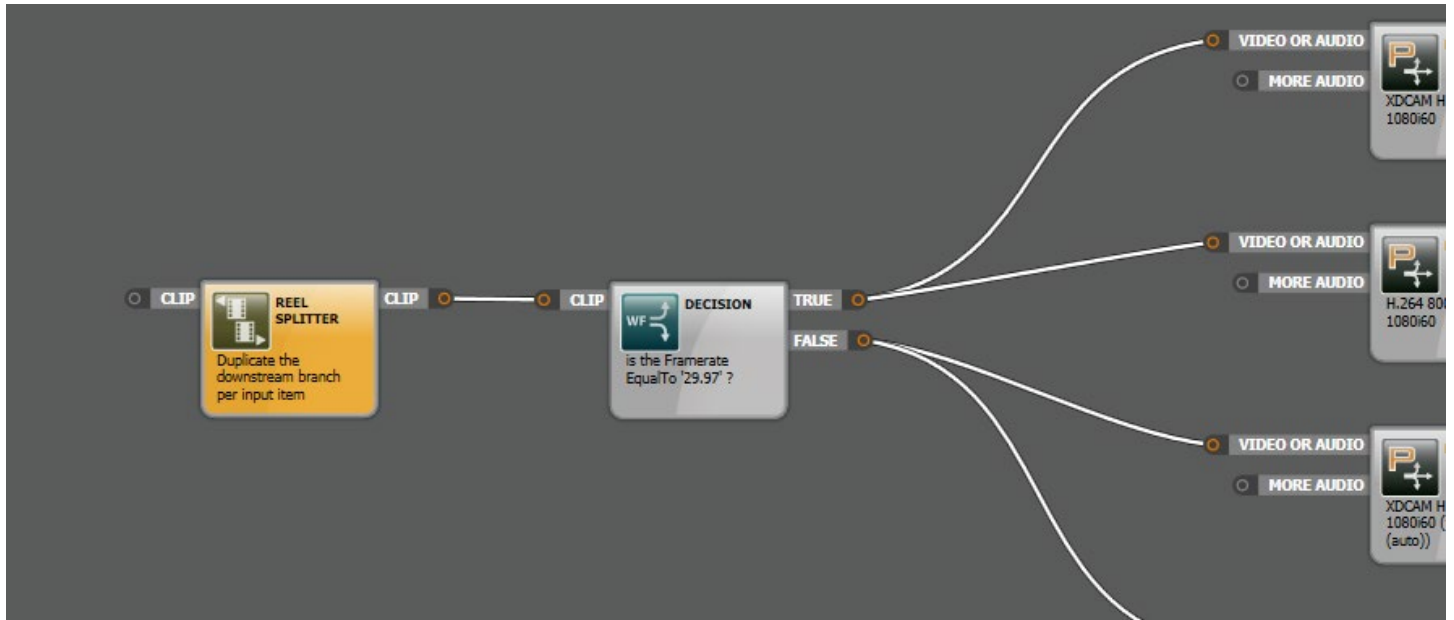
Figure 89 - Workflow - Reel Splitter

3.7.23 VidChecker

The quality control of file-based video imported from different sources, encoded at different bit rates/formats and utilizing different compression standards, presents considerable challenges to media management teams. VidChecker is a fully automated system for verifying/checking file-based content prior use. For example, if missing frames, data corruption, audio levels, black frames count etc. do not meet your required criteria, then VidChecker will report an error. This optional facility comprises a rack-mounted processor and a browser-based job monitor display. Contact Technical Support (Contacting Telestream) for more information.

The **VidChecker Verification** node enables the VidChecker process to be used in a ContentAgent workflow by means of a default or customized template.

Ensure that you are successfully connected to your VidChecker system by navigating to Settings-> VidChecker

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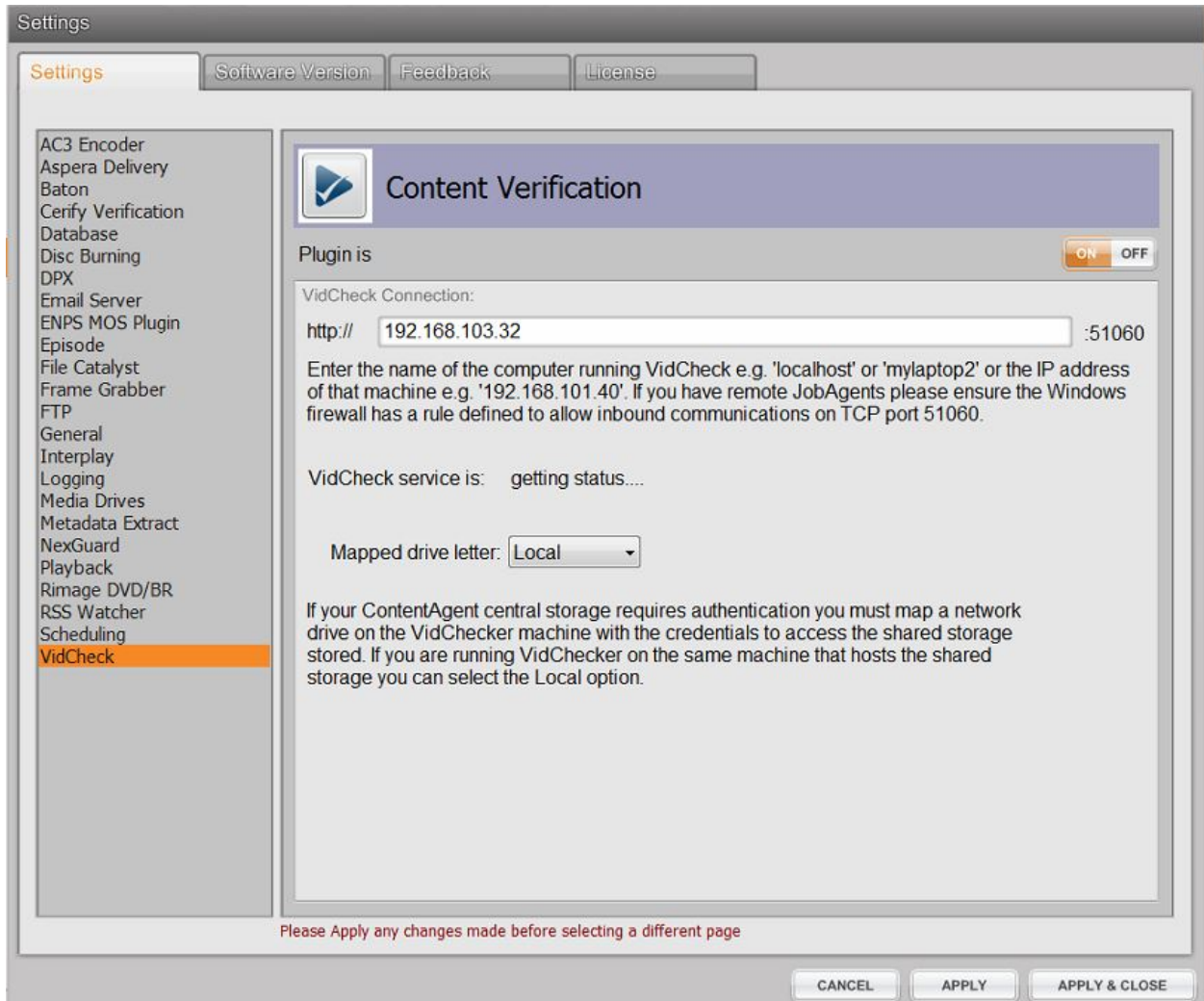
Figure 90 - VidChecker – Settings

A number of standard 'profiles' are provided, based on the most common production requirements. If you see what you want, select that profile then double-click in the **Template name** box to enter a default name. Alternatively, click on the **Create** button to create your own profile(s). This requires you to log into the VidChecker system with a Username and Password (provided when you purchase the VidChecker system). Once logged in, you can enter parameters for your new profile. Note that, when you purchase a VidChecker system, a Telestream representative will take you through the system and all its functions.
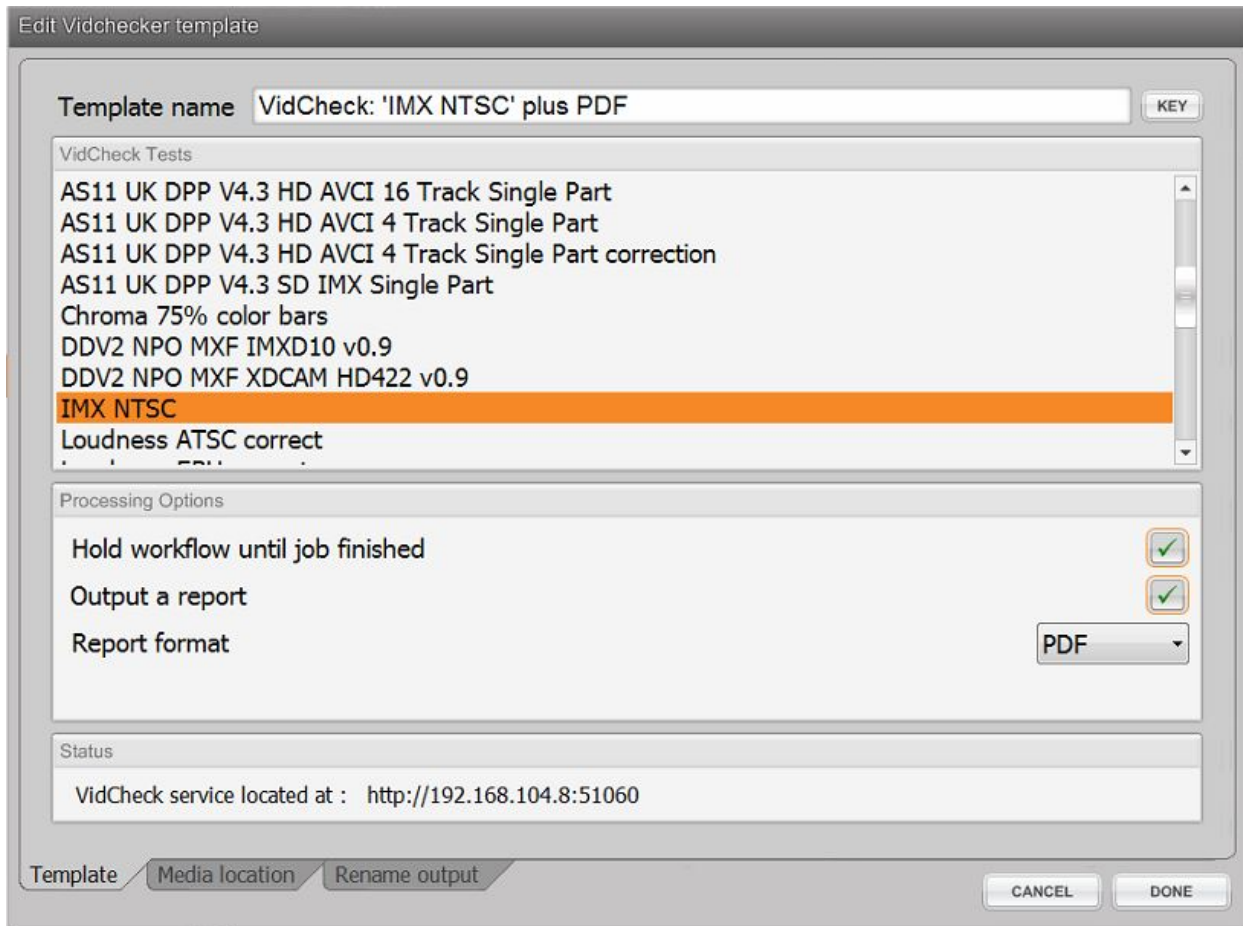
Figure 91 - VidChecker

Once you have selected a default or newly created profile, you can decide whether you want to wait until the VidChecker process has complete before the rest of the workflow tasks are carried out. Once the VidChecker process has finished, metadata is generated to provide a verification result with three categories — Success, Error or Warning, and the **Decision** node (see page 3-29) can then be used to implement further actions according to the verification result. In this case, check the **Hold workflow until job completes** box. If you need the job to complete quickly, do not check this box. VidChecker will still process the file and you can review its integrity and any errors later.

Set the required **Job Priority** to **Low, Medium** or **High.** It is recommended that this be normally set to **Low** so that VidChecker will not delay workflows unduly. Use **Medium** or **High** in exceptional circumstances, for example, where a batch of files need to be processed for a short deadline transmission.

Finally, you will notice a **Status** indicator that confirms that your VidChecker system is online. If present, a VidChecker system will be represented on the **External** tab display, linked to ContentCentral.

Usage

For example, create a broadcast deliverable, perform a QC pass, and based on the results either deliver or hold the file.

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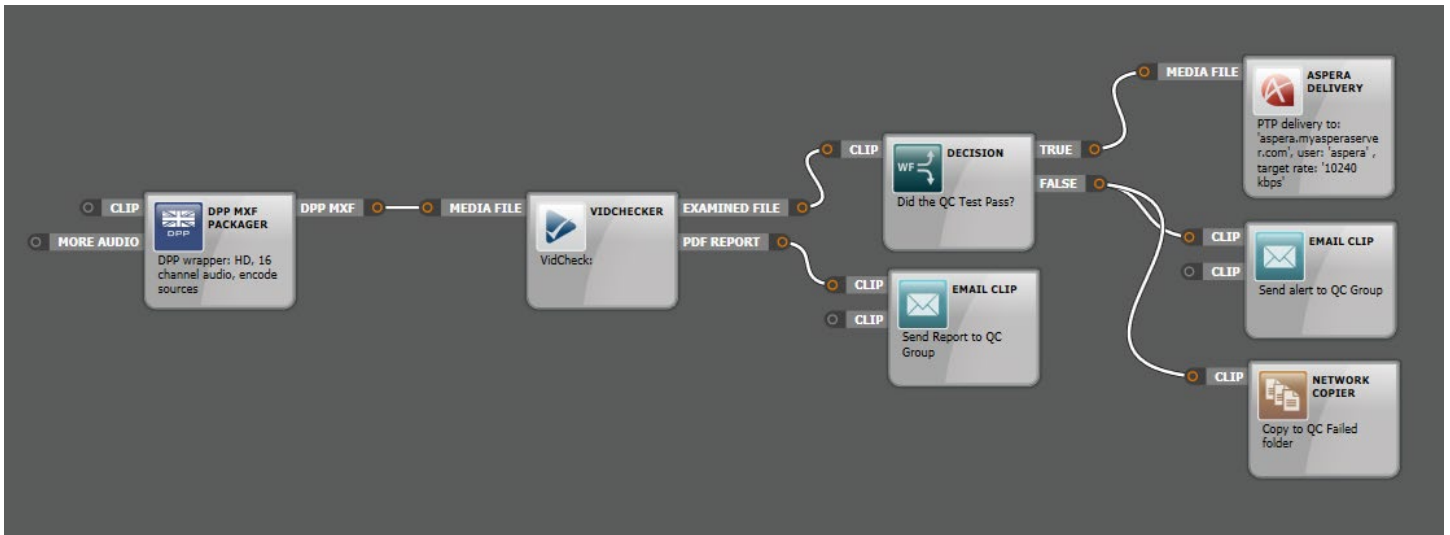
Figure 92 - Workflow - VidChecker

3.7.24 Aspera Delivery

Using the Aspera Delivery Plugin within ContentAgent

Provided you have as least one WAN Accelerators license, you will be able to automatically deliver files via Aspera as part of an automated ContentAgent workflow. This requires an Aspera license (not included) and knowledge of server details.

Setup

1. Install the Aspera Connect plugin on your ContentCentral system. This can be found at http://downloads.asperasoft.com/connect2/. Please contact Aspera if further information is required for this plugin
2. Within ContentAgent, go to Settings->Aspera. Turn the plugin ON.
3. You will now see this as 'connected' in the EXTERNAL tab of the ContentAgent UI.

Creating a template:

1. From the Store tab, select TOOLS->CREATE TEMPLATE
2. Under the MOVE section, choose ASPERA, and then select a folder to store the template. Click DONE.
3. You will now be presented with the Aspera Template Editor:
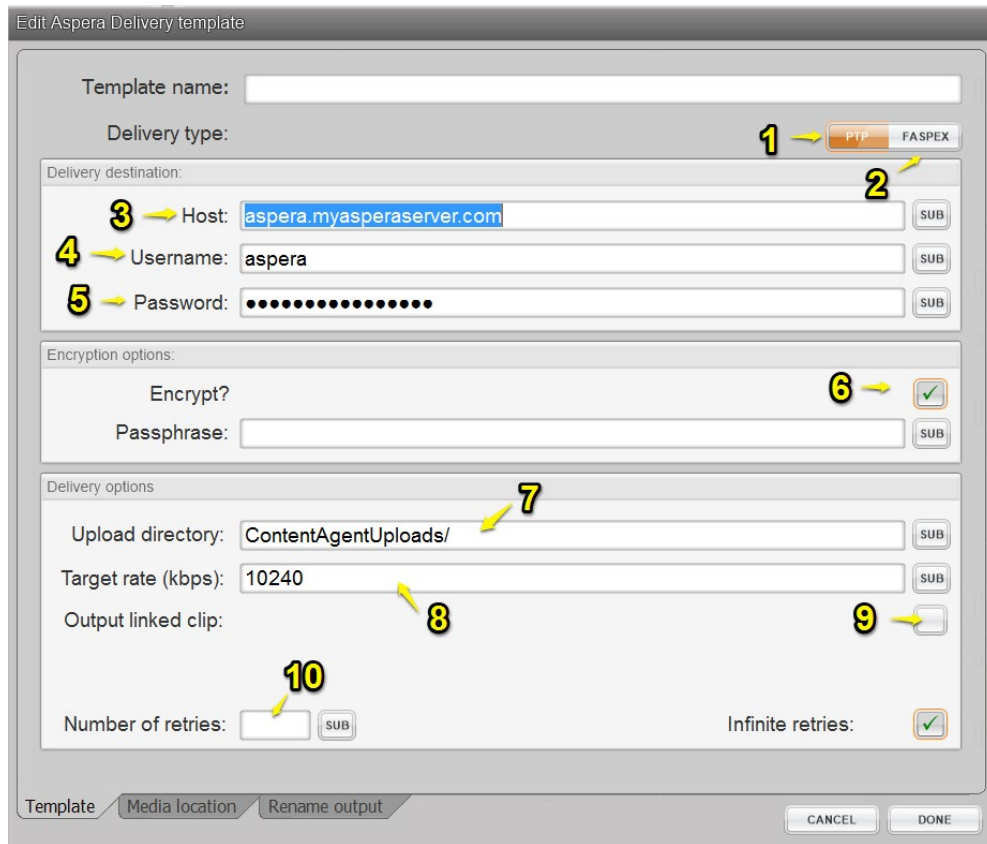
Figure 93 - Aspera delivery

1. Choose your Aspera Delivery method as PTP (as per this example) or FASPEX (more details to follow)
2. Enter your Aspera Host Name as per above – this should reflect your valid Aspera host details
3. Enter your Aspera Username – this should reflect your valid Aspera user details
4. Enter your Aspera password – this should reflect your valid Aspera account details
5. Choose whether to encrypt the package – if you choose to encrypt, a passphrase should be entered. Users who are sent this package will be forced to enter this passphrase prior to downloading.
6. Enter your upload directory as above – this path will be appended to the HOST entered in step (2). If unknown, this can also be left blank to upload the package into the root directory.
7. Specify a target upload bitrate if needed.
8. Select OUTPUT LINKED CLIP if you need to connect workflow nodes to the output of an Aspera delivery, for example a separate E-Mail node to alert another contact.
9. Specify a limited number of retries - by default the upload will be attempted infinitely until successful.

To setup your Aspera Faspex delivery template, the process will be very similar. Steps 3 – 6 will be identical, while Delivery options will be slightly different.

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Figure 94 - Aspera setup

1. Enter your Package Name – this will be presented to the recipient accordingly – tick Use Clip Name should this suffice.
2. Enter the email address(es) or Name (must be in your Aspera contact list) of recipient(s). Separate multiple address by ',' or ';' . Click EDIT NOTES to add further information to the package if required.
3. Notify on Upload will send an email to a designated contact once upload is complete
4. Notify on Download will send an email to a designated contact once Download is complete
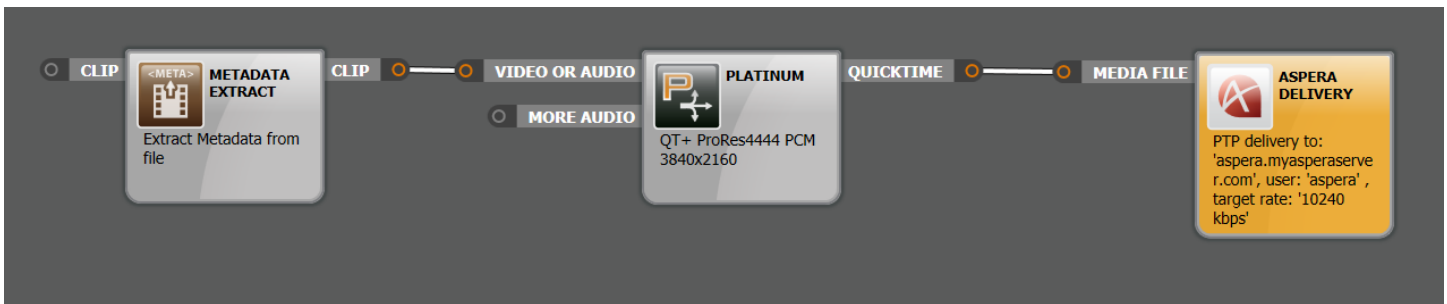
Figure 95 = Workflow - Aspera

3.7.25 Avid Interplay Check-in

Using the Avid Interplay check-in option within ContentAgent

Using the Interplay Check-In node, you will be able to automatically check media files into an Avid Interplay PAM system as part of an automated ContentAgent workflow. This requires an existing Avid Interplay license (not included) and knowledge of according server details.

Setup

This requires Avid Web Services to be pre-installed within the Interplay network.

**The ContentAgent and/or JobAgent system must be a client on an Avid ISIS or Avid NEXIS shared storage network. The system additionally needs to be connected to required shared storage workspaces.*

1. Within ContentAgent, go to **Settings->Interplay**
2. Enter the IP address for your Interplay Web Services system, along with the required port if this has changed. Click **CHECK SERVICE**. The Interplay service should now be online
3. Enter your Interplay workgroup details, along with the appropriate login credentials. Click **LOGIN**. Login status should now read OK.

4. Click **APPLY & CLOSE**. If any problems are encountered, refer to our "*Troubleshooting Connection Issues*" guide for further suggestions.
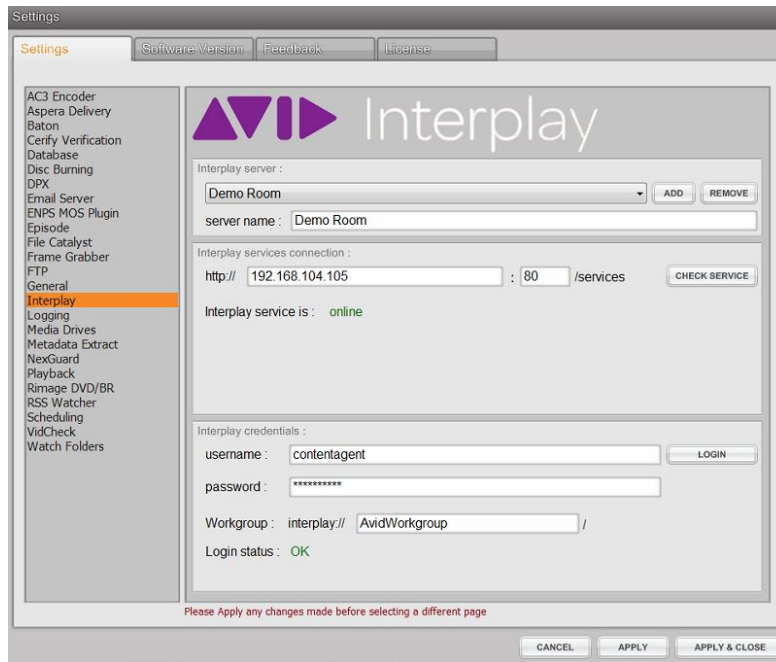
Figure 96 - Interplay Settings

Creating a template:

1. From the Store tab, select TOOLS→CREATE TEMPLATE
2. Under the MOVE section, choose Avid Interplay, and then select a folder to store the template. Click DONE.
3. You will now be presented with the Interplay Template Editor:
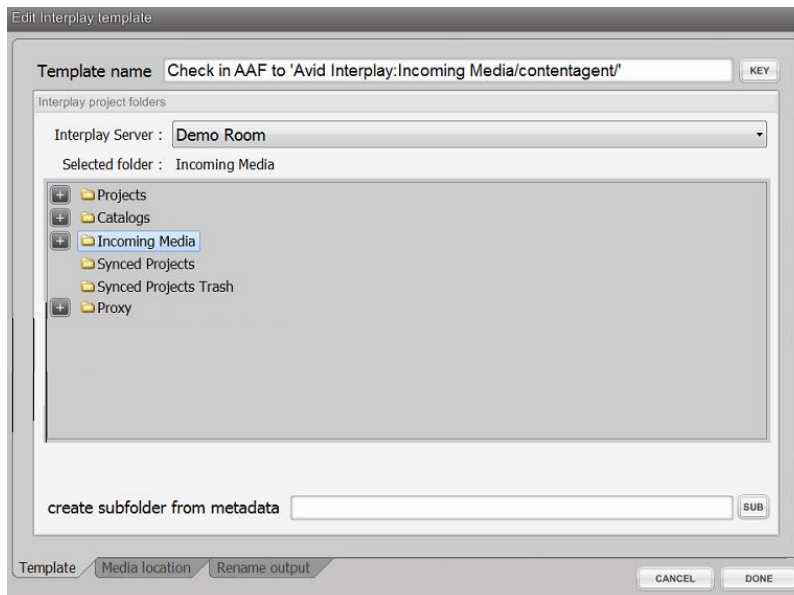
Figure 97 - Interplay template

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4. Choose your Interplay Server (if multiple servers are configured in Settings).

5. Browse to the desired folder

6. If a subfolder needs to be auto-created as part of the process, type in accoridnlgy, or click SUB to view metadata subtitution options.

7. Click Done.

Usage

Attach your Interplay template to the AAF output either a Platinum Transcode node or Avid OPAtom wrapper node. In the example below, both low-res and high-res versions of the same input clip are being created. Both are then, in this case, checked-in to Avid Interplay\Incoming Media.
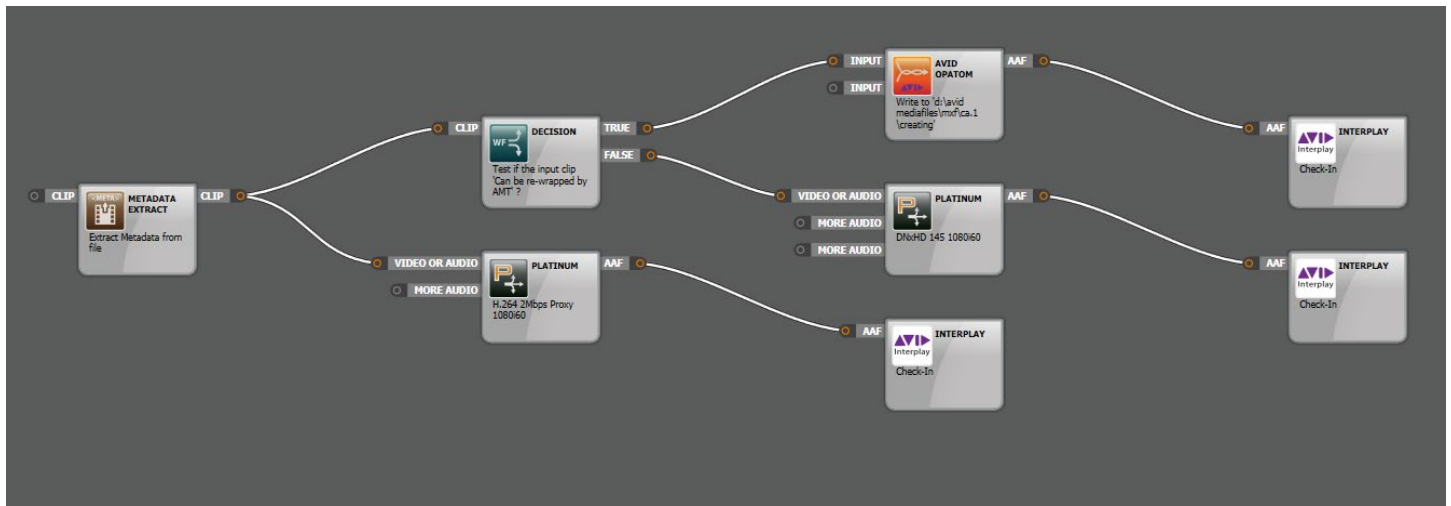
Figure 98 - Workflow - Interplay

3.7.26 File Catalyst Delivery

Allows you to deliver files via a FileCatalyst server. Setup your template accordingly with details provided by the customer or your engineering team.

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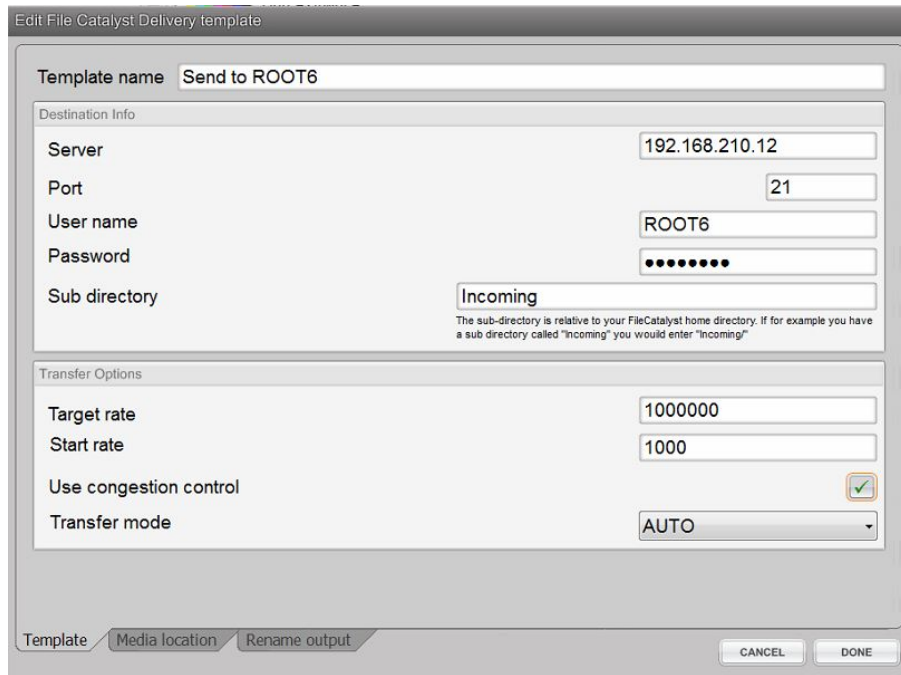
Figure 99 - File Catalyst

Usage
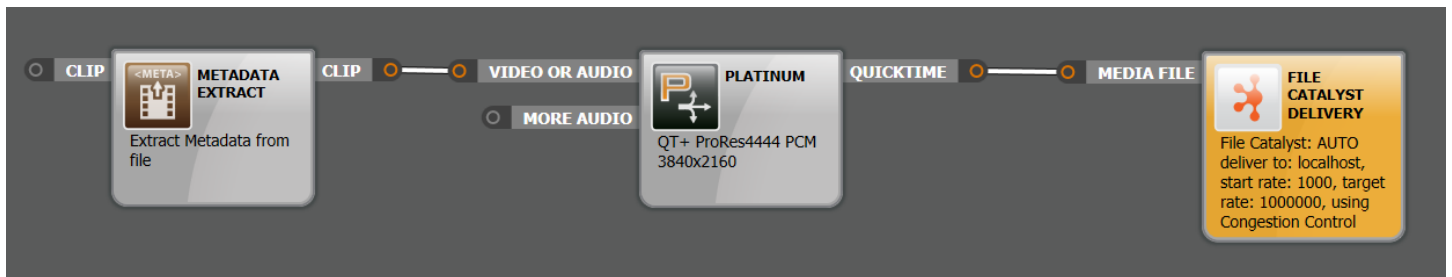
Figure 100 - Workflow - File Catalyst

3.7.27 Email Clip

A useful facility to email a clip or notification to single or multiple recipient(s). Fill in the email parameters as necessary (making sure the Attach clip box is checked ONLY if you want to send the actual clip media). The required settings for the email Server entry can be found in Settings. Check the Request read receipt: box as required.

You can use tags inside the any of the email details fields. Use the SUB key beside these fields. In the example below, the title of the source clip will be inserted into the BODY with a .mov extension.
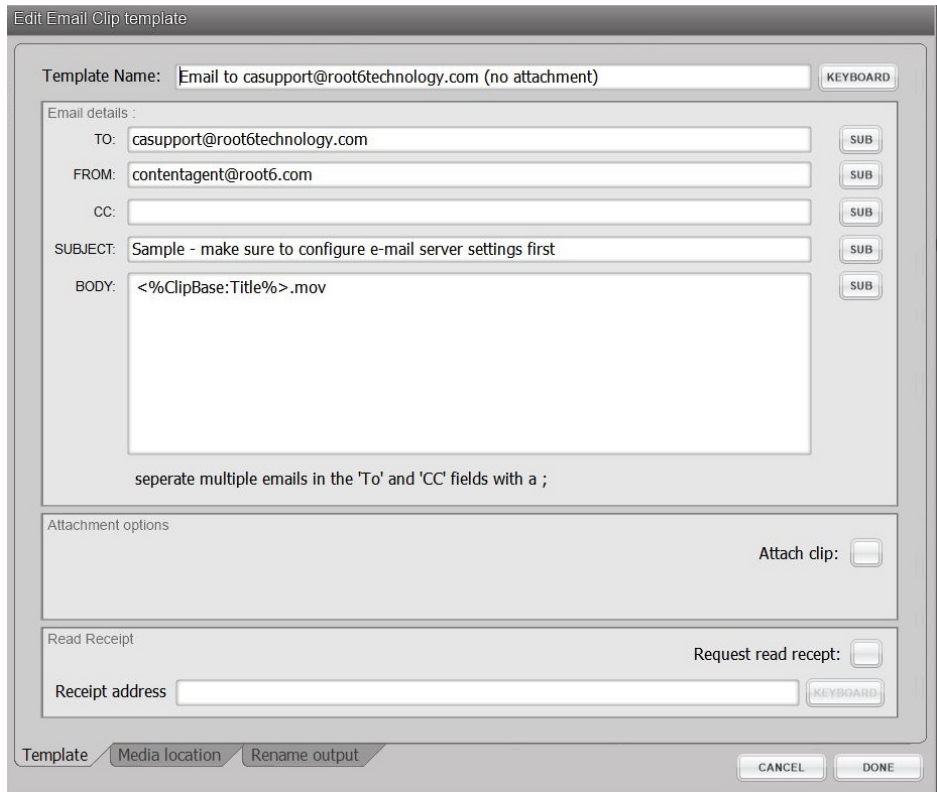
Figure 101 - eMail Clip

Usage

For example, use a decision node to check parameters on the incoming file – if none of these parameters are matched, then send an e-mail to a designated recipient or group alerting them of the improper file format:
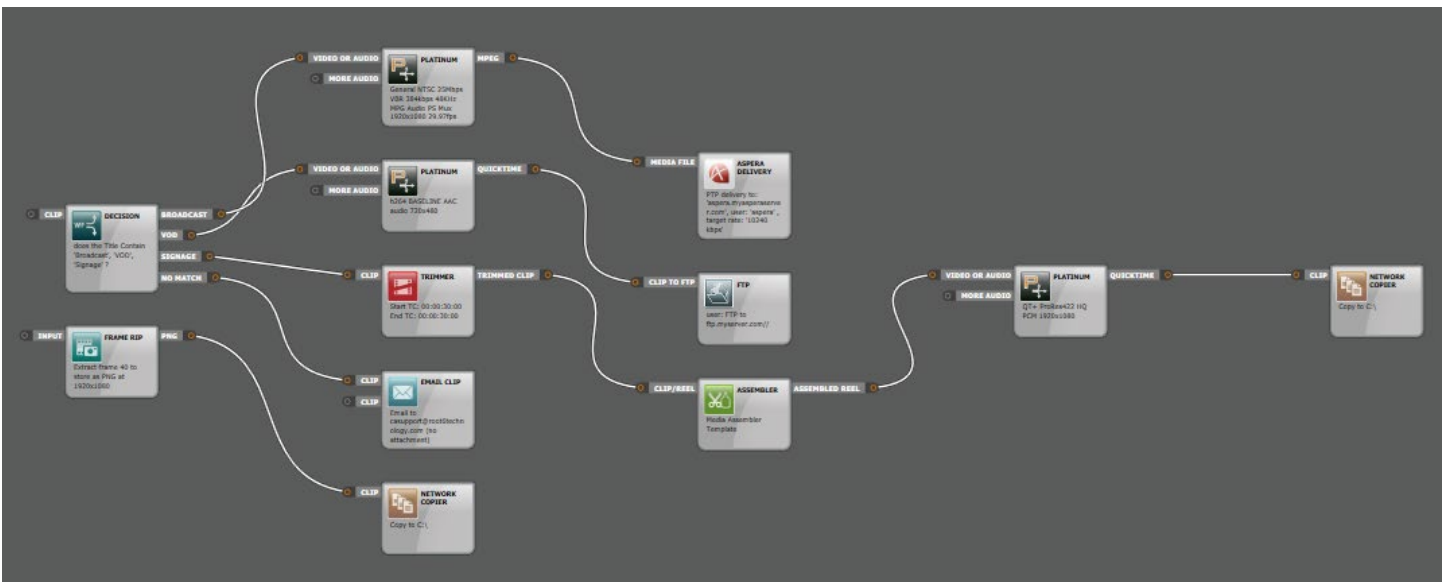
Figure 102 - Workflow - eMail Clip

3.7.28 FTP Upload

Enables files of any type to delivered using FTP. Enter the FTP Site Details to upload to an FTP Server. The URL should be a fully qualified domain name or valid IP address. Note: do not include ftp:// in the FTP Server URL. Enter your Username and Password and click Verify to check that the URL, username and password combination are all valid. Note that you can select Active or Passive Mode FTP (Use Passive Mode Yes/No). Once you have successfully logged on to the FTP server, use the PICK button to set a Remote Directory. You can also use the SUB button to build a UNC path using metadata, provided you have appropriate permissions. Having done so, double-clicking in the Template Description box will enter a default name for the template.

If you select Email Notification (Yes), and complete the necessary fields, a confirmation will be sent to the designated recipient on completion of this workflow task. Multiple recipient addresses can be entered if separated by a semi-colon (;). Read receipts can be requested as required. Again, use the SUB button to build the subject or body text using metadata. Click YES to append the URL (e.g. ftp://ftp.myserver.com/clip1.mp4) to the body of the e-mail for easy retrieval.

Figure 103 - FTP Upload

3.7.29 Network Copier

This enables files to be copied to designated local or network sources. You will need to enter the Destination UNC Path, Username and Password. To get started, either select Get Local Drives, which looks at the drives currently attached to ContentAgent, Get Network Shares or simply enter a UNC path manually.

Note that the UNC path must end with a folder, i.e. entering \\MYSERVER and clicking Test Connection will give an error, whereas \\MYSERVER\MYSHARE will work. The Username must be qualified e.g. INTERNAL\MYFOLDER where INTERNAL is the name of your domain, or MYPC\Administrator where MYPC is the name of your computer and your login is Administrator. A Test Connection function is provided to check that the path is valid; if so, directories will be scanned for the desired files.   Use the SUB button to specify the destination of a copied file using clip metadata, particularly useful in automated workflows. If the path does not already exist, ContentAgent will attempt to construct this on the fly.

The Copy Options area of this pop-up allows a number of tasks to be carried out while the file is being network copied to a location:

- **Create XML file of clip metadata** will create an xml file in the same directory as the copied file, containing all the metadata as seen in the Store's the Info tab. This is useful in asset management applications etc.
- **Export Clip and Metadata as zipped file** combines the copied clip and its metadata info file into a compressed container — a Zip file for easy distribution.
- **Output a clip linked to destination file** will record a linked location back to the ContentAgent Store database, so that the clip that has been copied can be later accessed from the remote location. This is very useful if you are working in a SAN environment.
- **Compress exported image sequence** will compress the individual frames of an image sequence file into a zipped container, and allow you easily distribute this type of file.
- **Replace spaces with Underscores**
- **Use slower but safer copy method** will use a more robust yet slower copy method, useful if you are seeing network interruptions
- **Drive letter refers to this computer** will force your main ContentAgent system to do the copy, useful if you have remote JobAgents connected and the volume is only available locally.
- **Copy media referenced by an AAF** will copy .mxf files to the specified destination if the input clip is an AAF (e.g. Platinum Media Engine creates OPAtom MXF directly to shared storage, outputs an AAF, and you want to copy these same .mxfs to another location for backup)
- **Copy checking –** if an MD5 checksum has been generated on import, either via the MD5 Checksum workflow node, the Import tab, or a Watchfolder, you can verify this on the copy out process. Select FAIL JOB if you want to cancel the copy and throw an alert should the checksums not match on competition. Enter an email address to send this info to a designated recipient if desired – ensure you have configure your email server in Setting to use this facility.
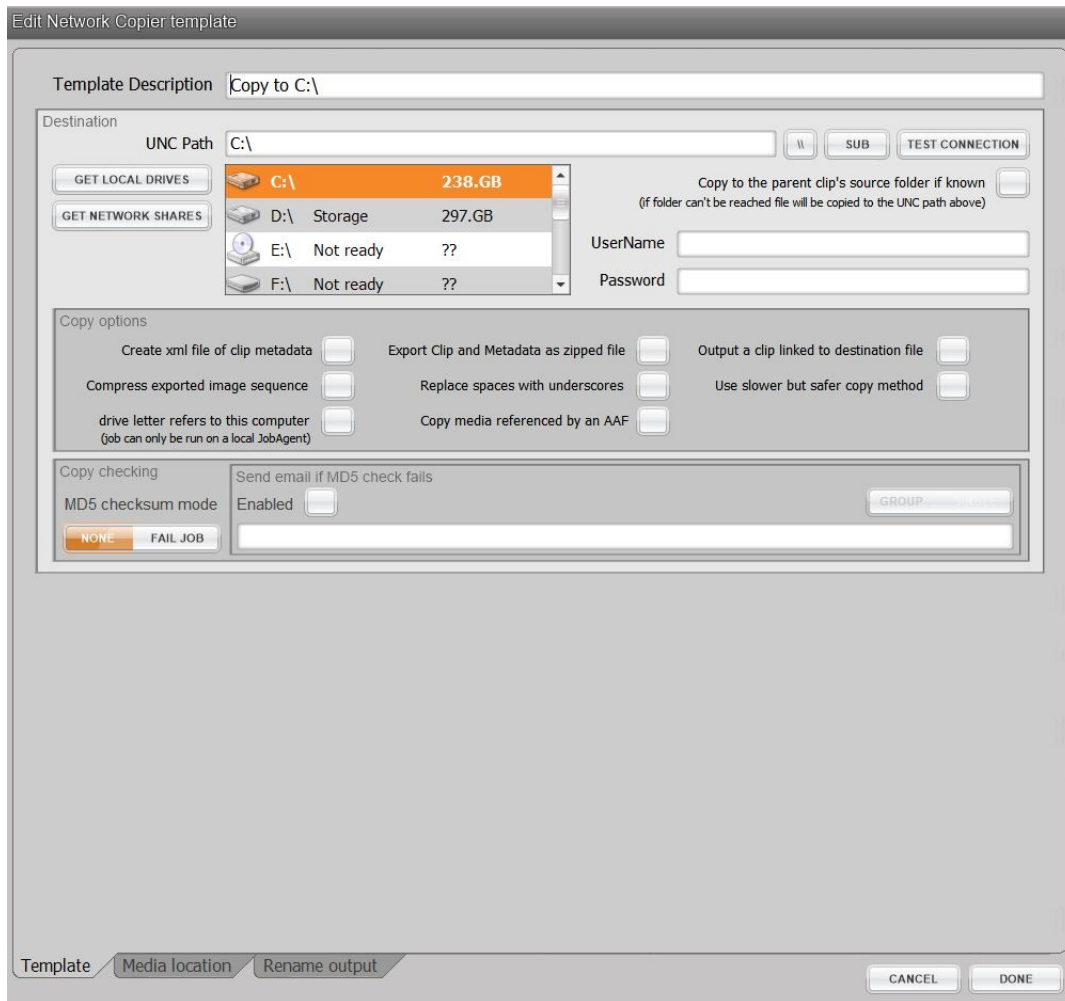
Figure 104 - Network Copier

Tip: Create a workflow containing just a Network Copier node, and add this to your Quick WF list to easily get clips out of your Store to a desired location!

3.7.30 Reel Maker

This node performs the opposite action to the Reel Splitter node, and one should be included after each Platinum Engine node. This will group newly generated clips together as a single collection, ready to be fed to the next node. It is not possible to edit this node in any way.

Usage

For example build a reel to transcode into a single file, using a combination of pre-existing clips (e.g. bars & tone, black, etc..) and clips linked via metadata (See the Metadata to Linked clip section for more details)

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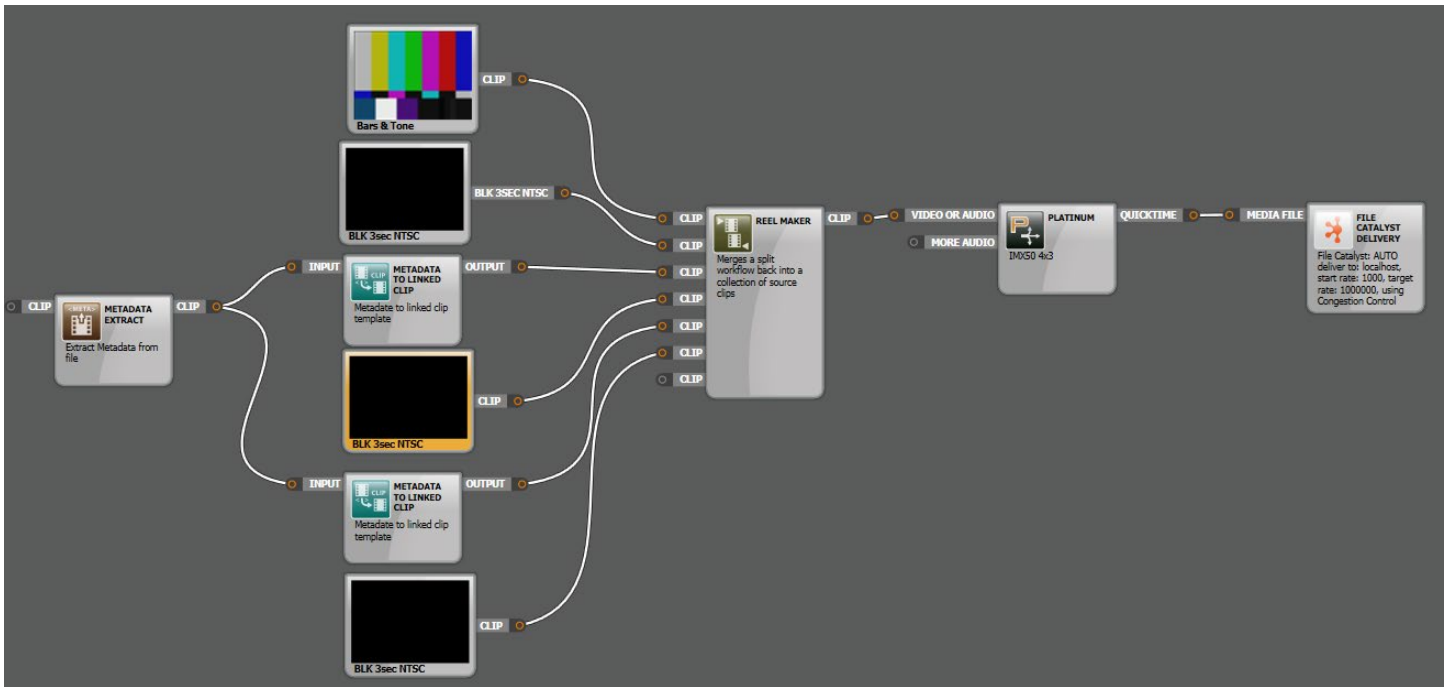
Figure 105 - Workflow - Reel Maker

3.7.31 Clip Title Auto Metadata Generation

Use this processor to automatically parse title or file path elements as metadata, which can then be used upstream in your workflow.

Figure 106 - Clip Title Auto Metadata Generation

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1. Title source - Choose whether you want to parse information from the clip's title (normally file name) or file path.

2. Load a sample clip from your Store to use as a basis for parsing

3. Click Add Mask Substitution to add more 'masks' to the parse parameters at the top. This will determine the number of elements which are created as metadata and should match the structure of your sample file

4. In the Mask area, specify your mask character. This defines the separator ContentAgent will look for to determine individual mask elements. The default character is '_', other common mask characters often include '\', '-' and ' '.

5. In the Substitution Mappings sections, you are defining how your parsed information will be mapped. Each parsed element must me mapped to a specific ContentAgent metadata field.

   a. Choose a Schema – each schema offers different metadata groups and fields.   ContentAgent comes with several pre-built schemas (accessible in the Admin account), and you can create custom metadata schemas for use instead. Please see 'Creating a Custom Metadata Schema' for relevant instructions.

   b. Choose your Metadata Group – different fields are available in each group. To get a better idea of what these groups normally look like, peek at one of your clips in the Store tab (Info->Metadata).

   c. Choose which Field this element should be mapped to

6. Click PARSE SAMPLE TITLE to see how your sample clip title/path maps into these fields. You will see the Value Extracted from File column populate accordingly, provided the masks have been correctly setup.

Usage:

For example, you may want to parse the clip title and use the individual elements to construct a slate using Platinum's Watermark feature. Note that in this case, you will need to store a clip containing this metadata first, in order to initially build the watermark substitutions.
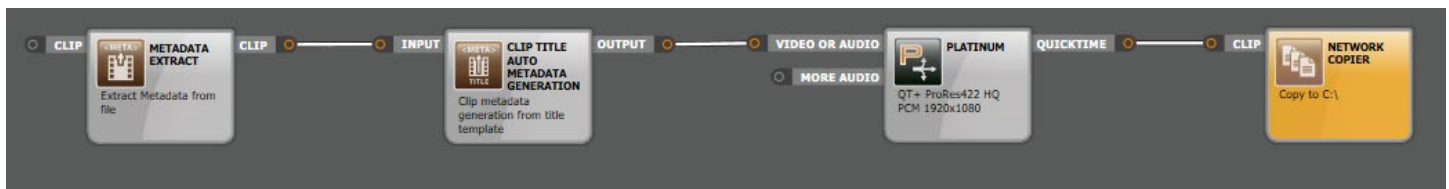
Figure 107 - Workflow - Generate Metadata from Clip Title

3.7.32 Delete

There are no template editing options for this task. **Use it with care!**

If there is a Delete node in your workflow, it will be the last step of the process no matter where it is positioned.

An unattached **Delete node will delete the source clip** once the workflow is complete. USE WITH CAUTION!

3.7.33 Fail Workflow

Generate a custom error message and end the workflow.

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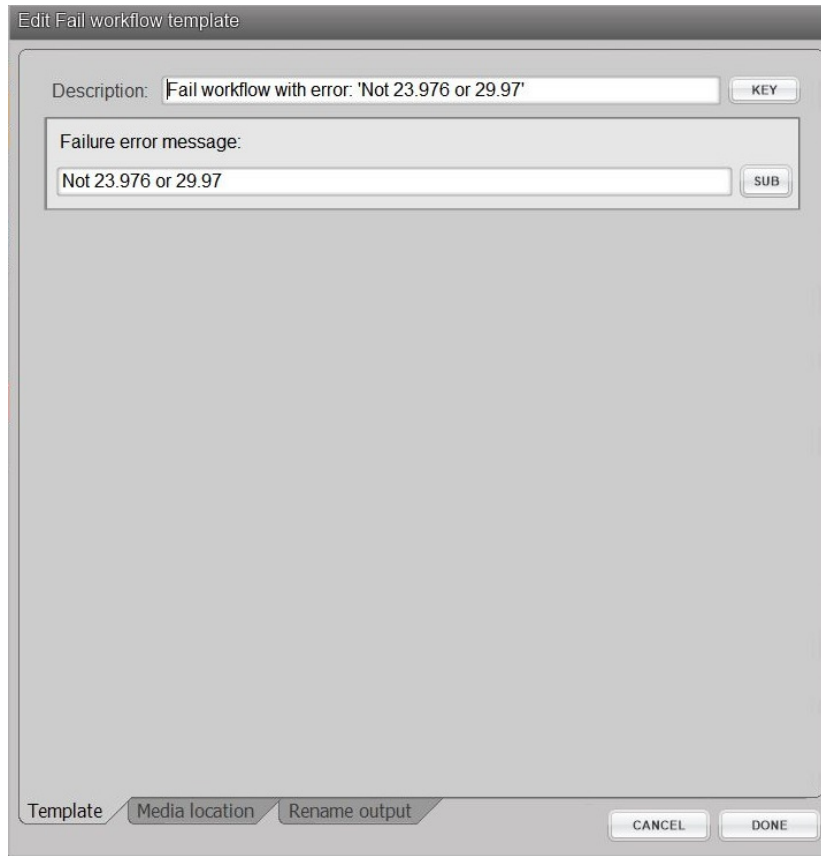
Figure 108 - Fail Workflow

Usage

Particularly useful in conjunction with a decision node, e.g.:
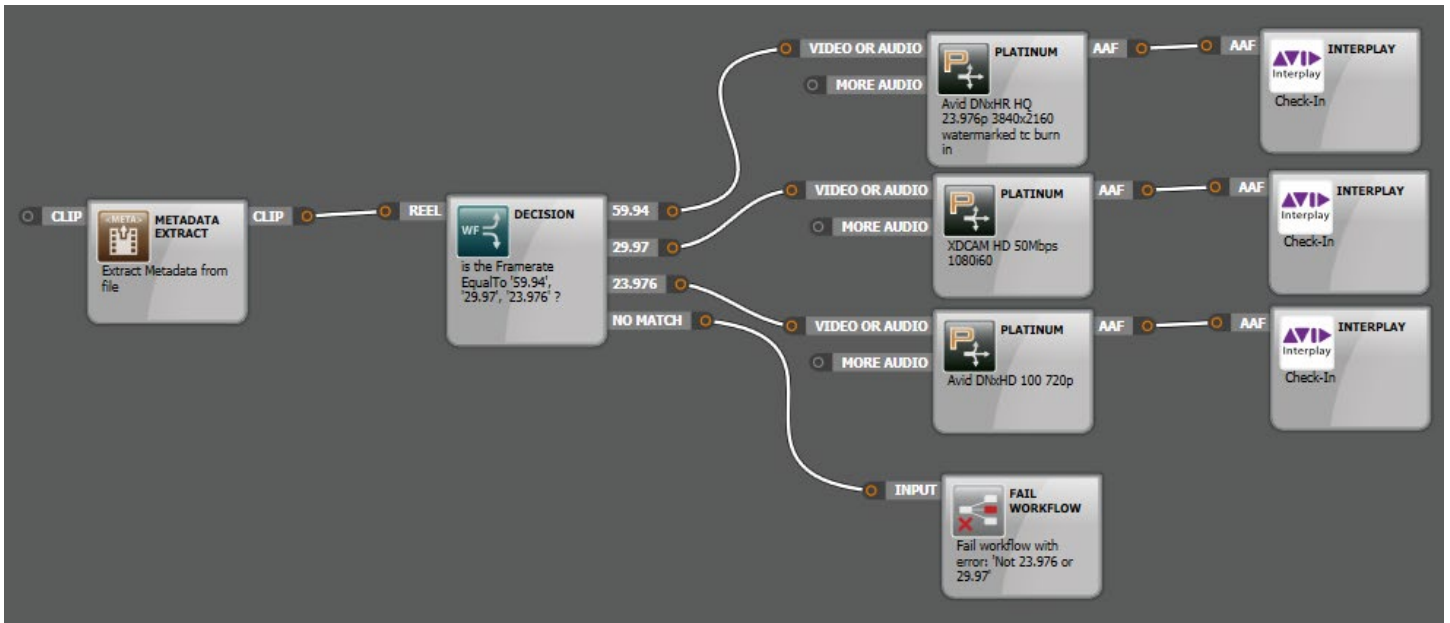
Figure 109 - Workflow - Fail Workflow

3.7.34 Media Assembler

This can be used with media files to merge clips/reels into one single clip automatically during a transcode, and is ideal for such tasks as topping and/or tailing clips with credit sequences or bars and tone.

To use this processor, select it from the list of nodes on the left of the Workflow Designer, and create a new template for it. The template pop-up shown left appears, to enable you to Pick... a clip or reel to add to the beginning and/or end of any clips that the node is applied to (these should be a similar format to your source input clip). Note that a clip frame on the right of the pop-up confirms your choice. Once you have picked the clips/reels you would like to use, name the template and click Done
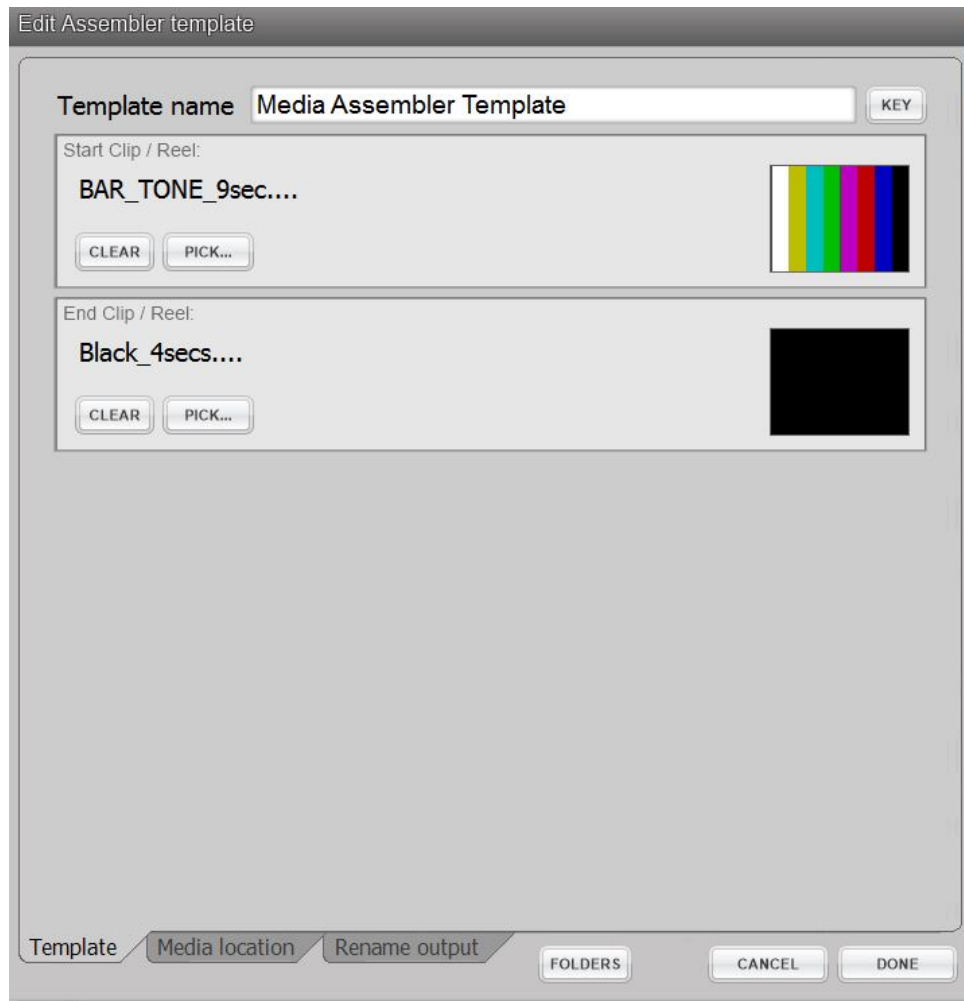
Figure 110 - Media Assembler

Now the Media Assembler node can be dragged into the Workflow Designer and a template can be selected. Next, add a Platinum node set to the format of your desired output, and any other workflow tools that you require. Save the workflow and from now on, any clips or reels you apply it to will be combined with the clips/reels that you picked in your template. Make sure to choose 'Join clips when transcoding a reel' in your Platinum template to stitch these clips together.

Usage
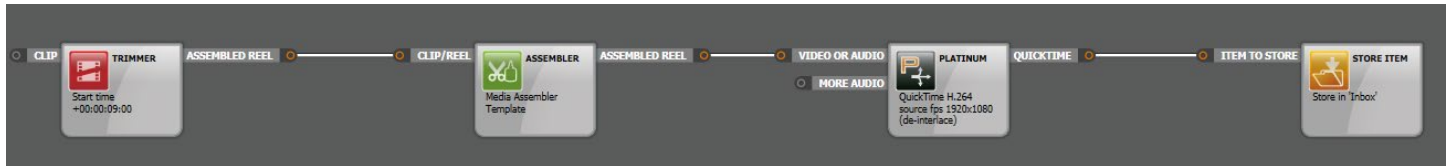
Figure 111 - Workflow - Media Assembler

3.7.35 Media Trimmer

This can be used media files to trim the beginning and/or end of a clip automatically during a workflow, and is very handy when you need to trim pre-roll black, clocks, slates or bars and tone.

The template settings provide options for enabling start and/or end trims and a choice of using either timecode or frames for trim entries. With either method, the trim length is calculated with relation to the start or end of the clip. For example, to trim 10 seconds off the end of a five-minute clip, you need to enter 00:00:10:00 into the end trim length window, not the actual clip

When you have finished setting up the template, give it a name, save it and then you can start using the Media Trimmer in your workflows by dragging it into the Workflow Designer window. Once you have added the trimmer to your workflow, simply connect its output to a Platinum processor set to the required file format.
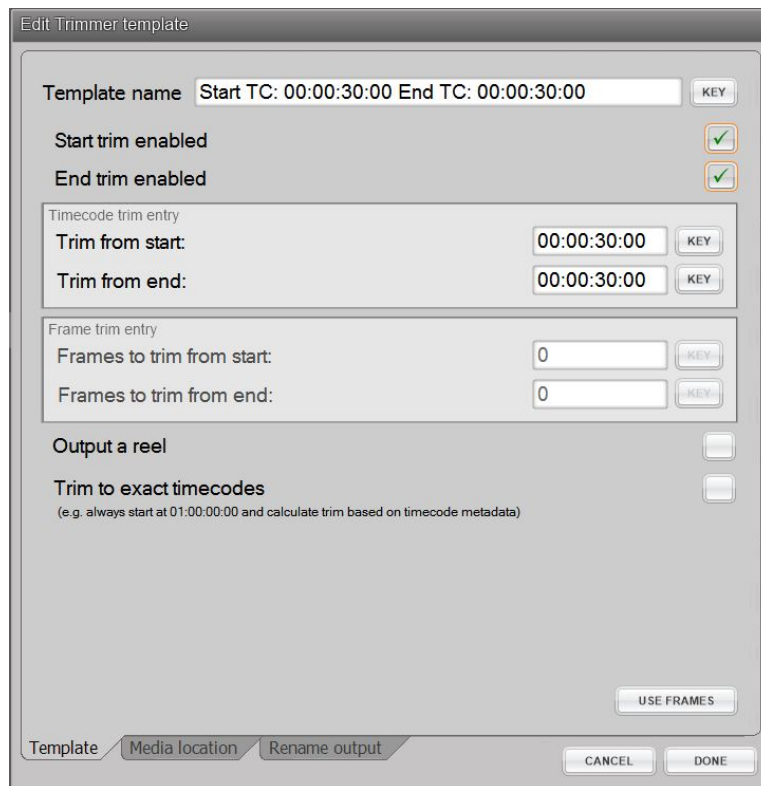
Figure 112 - Media Trimmer

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Usage

For example, trim an expected amount from the start and end of a clip (e.g. Slate, black) and replace with new top and tail clips.
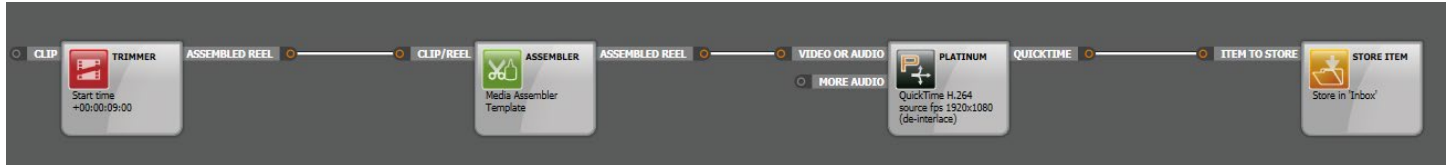
Figure 113 - Workflow - Media Trimmer

3.7.36 XML Transformer

The XML transformer template allows existing metadata, basic clip information and system information to be mapped to any externally defined metadata or XML schema:
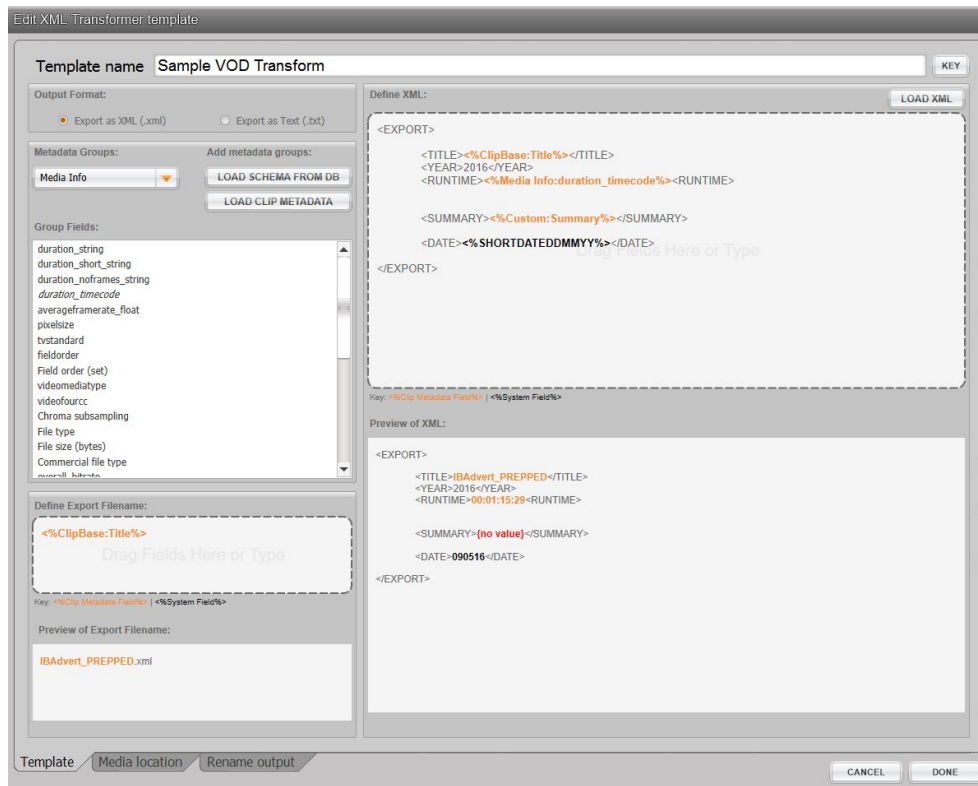
Figure 114 - XML Transformer

In the top left of the pop-up, first select **LOAD CLIP METADATA** to open the file picker from which you should choose the required file, and all the groups and fields that contains metadata for that clip will be available to choose from. Default Metadata covers attributes that are kept for all media clips in the database, such as Title, Creation date etc. Select LOAD SCHEMA FROM DB to pick from a list of currently available schemas on your system. See Section 8 for details on creating a new metadata schema.

Your choice will determine the options in the Metadata Groups: drop-down menu. Each Metadata Group has its own set of Metadata Fields, as displayed in the box below. This is where the information will be read from during the transform.

The System Fields: list contains items that can be used to build any custom date format that will be set up when the new XML schema is created.

On the bottom left of the pop-up, Export File Name: displays a default name. Click on a Metadata Field or System Field entry then drag into the Export File Name pane to insert that field name into the export file name.

To add new fields to a schema, select the appropriate Metadata Field or System Field entry then drag it into the Define XML pane. The selected field will be entered at the last location where your 'I bar' was placed in the editor text. If an existing tag in the schema is selected, the selected internal tag will replace the whole tag. Click-dragging a field over an existing tag will replace the whole tag with the selected field tag.

Fields that have been used in the current template will be displayed in red. Note that fields can be used more than once. Metadata fields are displayed within tags, in the format <%group:fieldname%>. System fields are always displayed in capital letters (as in the list) flanked by tags.

If you click within an existing tag, the whole tag will be highlighted, and any operation carried out will be actioned on the whole tag (i.e. Delete will delete the whole tag, and inserting a field from the Metadata and System lists on the left will replace the whole tag).

Preview calls up an additional pop-up that displays the result of a transformation. If no clip has been selected, most of the tags will have empty spaces. System fields will show current date and time.

If a source schema has been loaded, double clicking in the Template Name box will use the title of the selected schema as a template name. Alternatively, any suitable name can be entered.

Select Done to save the template; before you do this, choose whether you Save the result as XML or Text, depending on your asset management system. The newly created template can be used in any workflow, and its output will be the template schema with its tags replaced by data from the source clip.

Usage

For example, create a CableLabs MPEG2 for VOD, and create a custom XML sidecar for additional delivery:
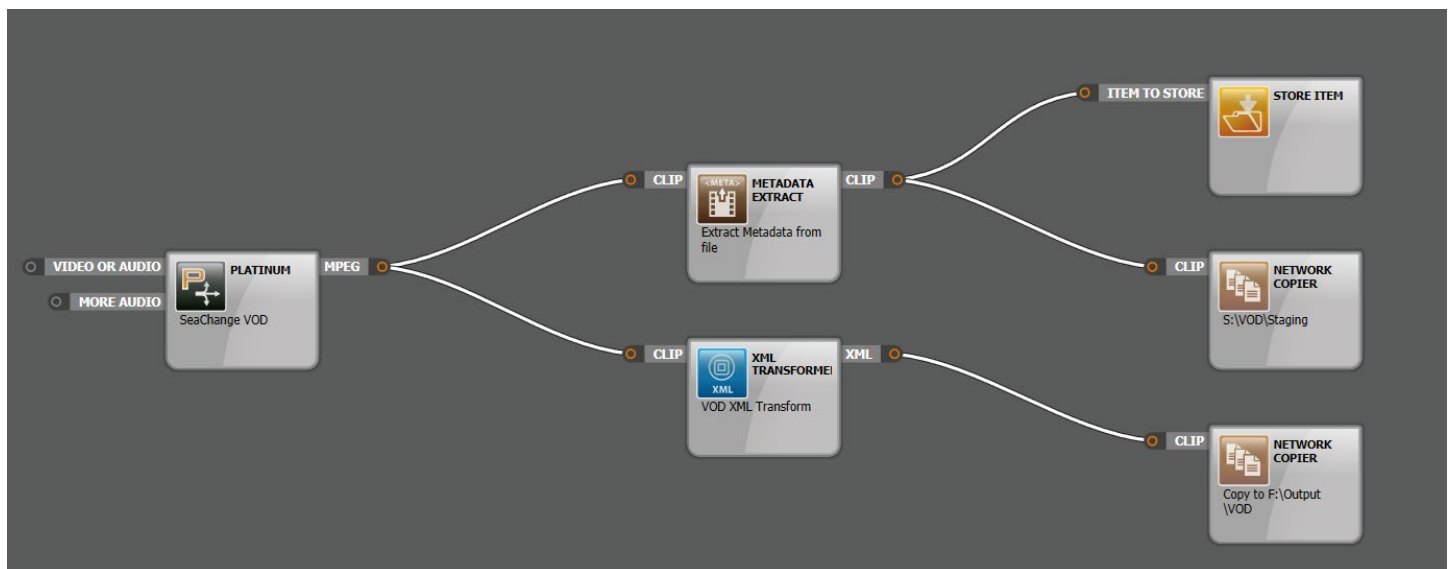
Figure 115 - Workflow - XML Transformer

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3.7.37 Metadata to Linked Clip

Use this node to point to an input clip via UNC path, allowing you to automate workflows using clips that are not in watchfolders or the Store.

Usage

For example, create an Op1a MXF from linked sources:

1) The metadata extractor is simply used to trigger the workflow. It should be wired up to your desired input directly (in this case, the first input of the MXF Wrapper) along with any Metadata to Linked Clip nodes. These nodes will ignore the input clip, using that which is referenced in the template itself instead
2) Metadata to Linked Clip nodes – it is within these that you specify where your linked clip is stored. Please see Figure 2 for configuration details
3) MXF wrapper – combines your Input clip with the 8 'linked' clips
4) So, if you submit a video elementary stream to this workflow, it will result in a single Op1a MXF with your input clip as the first video track, and your 'linked' clips as the 8 audio tracks
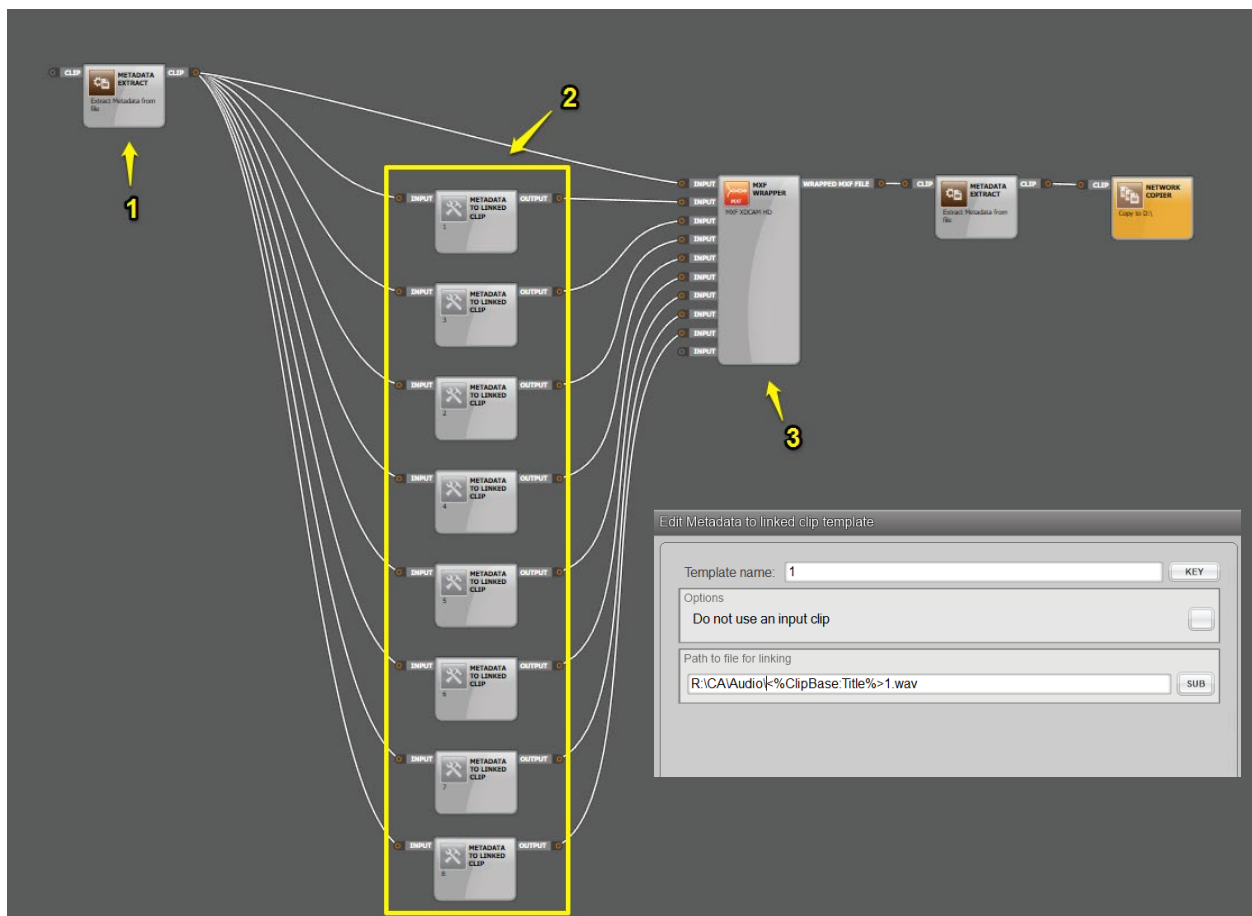
Figure 116 - Metadata to Linked Clip

3.7.38 Metadata Injection

This node allows you to insert custom metadata at any point in the workflow. Handy for mapping static (system) filed to custom columns for Avid or other purposes.

Use the SUB button to map existing metadata to custom field names.

Ensure you press <ENTER> after editing each line to save changes.

By using the <%CardAgent%> tag, the specified field will be available for manual population within CardAgent. Therefore, in the case below, a CardAgent user can type in Producer and Episode information via the CardAgent UI, providing a workflow containing this node has been selected. Please refer to the CardAgent User Guide or contact Technical Support (Contacting Telestream) for further details .

If you have an external XML containing metadata, choose the FROM XML option to use its information instead.

Figure 117 - Metadata Injection
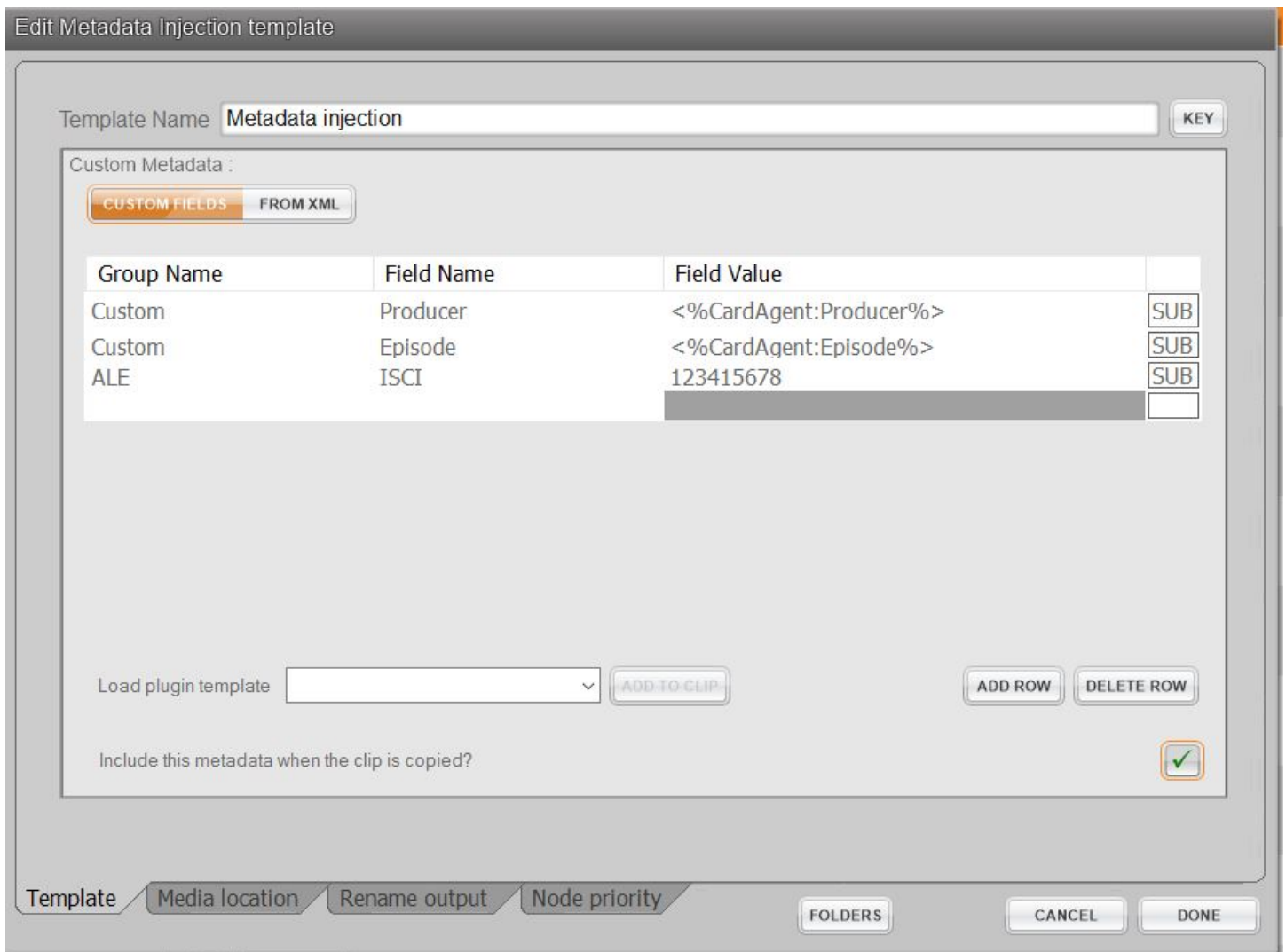
Usage

For example, run a CMD Line process to trigger Media Info, generating an XML file, which can then be merged back into the clip. This would give you any extended metadata that is not part of ContentAgent's standard inspection:
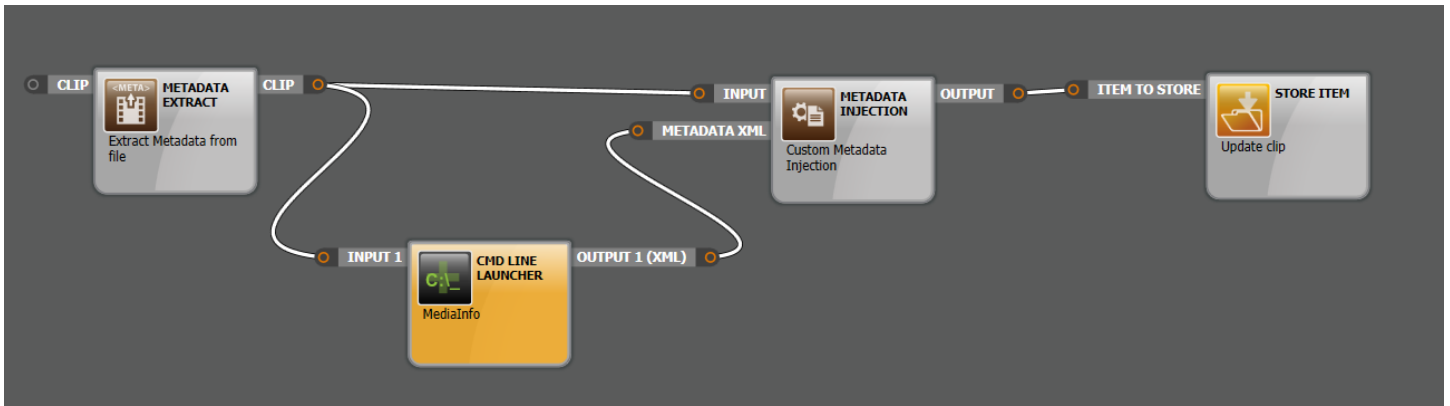
Figure 118 - Metadata Injection

3.7.39 Send to Workflow

This handy node allows you to encapsulate an entire workflow within a single template, making workflow management easier.
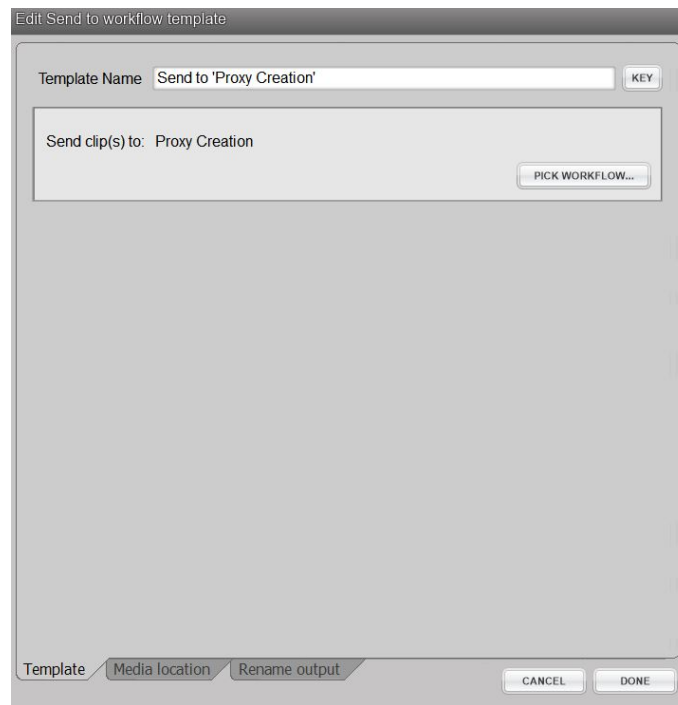
Figure 119 - Send to Workflow

1. Click Pick Workflow to select the workflow that you want to embed. Note: the workflow you select MUST have a **BLANK SOURCE** at the very beginning. To add a BLANK SOURCE to your workflow:
   i)   Exit the template editor
   ii)   Return to your Store
   iii)   Edit your desired workflow
   iv)   Click ADD BLANK SOURCE at the bottom of the workflow designer
   v)   Attach its output to the rest of your workflow.

vi)   You can then save and close this, return to the Send to Workflow template editor and 'Pick' the
         workflow you have just saved.

Usage
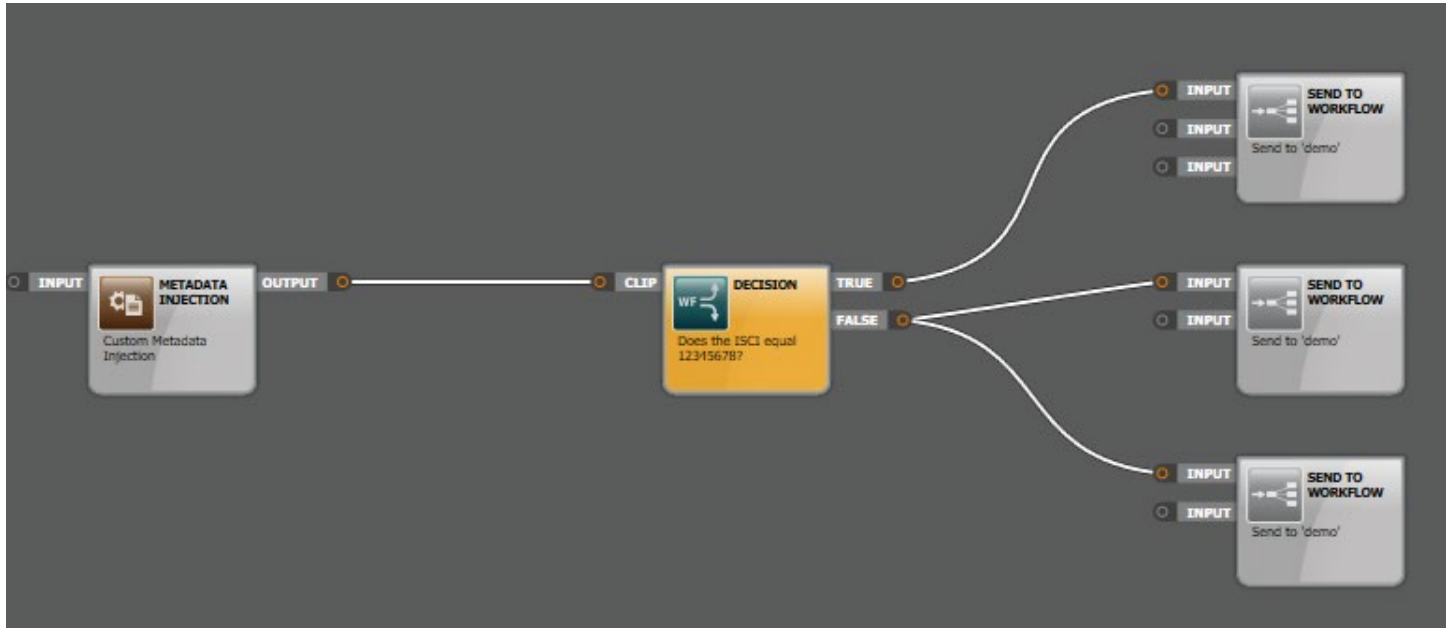
Figure 120 - Workflow - Send to Workflow

Note that any changes you make to the 'picked' workflow via the Store will propagate through any workflows that use this Send to Workflow template.

3.7.40 Store Item

This enables clips to be automatically stored in any folder within the Store (database).

With the node in the Workflow Designer, to specify the folder, right- click on the task box and select Edit Template. You are given the choice to STORE IN FOLDER (most common), or UPDATE EXISTING CLIP if it already exists and only changes need to be stored, e.g. when the clip's metadata has been modified by a workflow task. Click **+** to see subfolders.

Note that the Add Folder function at the foot of the workflow window can be used in place of Store Item.

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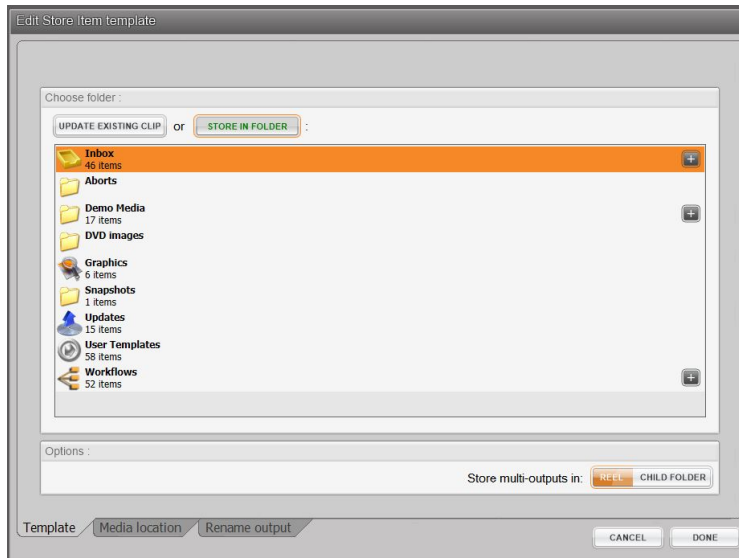
Figure 121 - Store Item

3.7.41 CMD Line Launcher

This enables a third-party application to be launched within a ContentAgent workflow. Template setup parameters require you to submit a path to the application (facilitated by a Browse feature) and one or two other details.

Custom processor nodes can be created that can be integrated into a workflow just as easily as any other ContentAgent processor, which provides a high degree of flexibility. If, for example, a third party company has an application that can deal with a special type of media that is not accessible to ContentAgent, you can define a template that will take control of that program, give ContentAgent access to that media, and integrate the complete operation in a workflow.
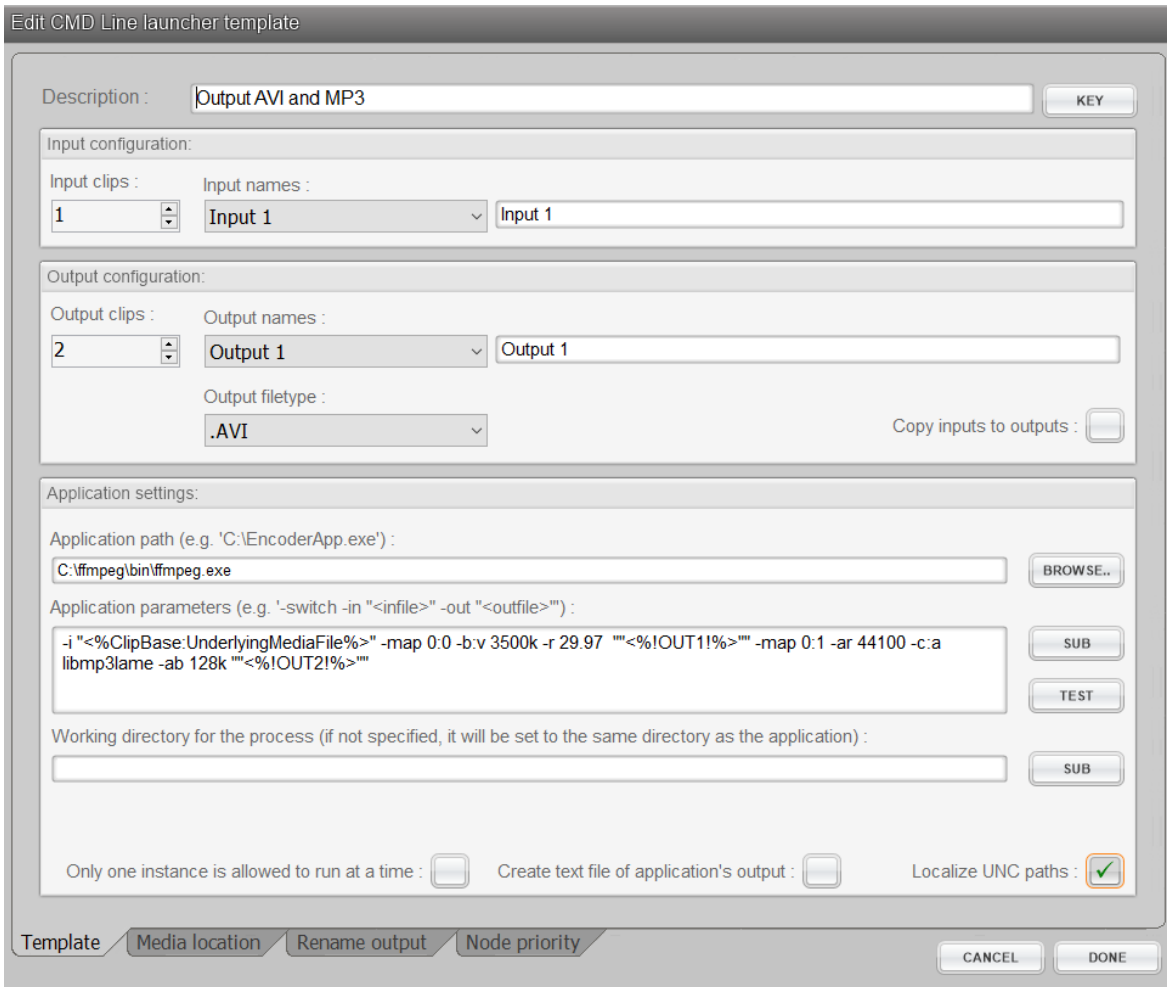
Figure 122 - CMD Line Launcher

Use the SUB button to add custom tags to the string – these tags will be populated with real time info when ContentAgent submits the job to the CMD line process.

To generate an output clip, so the workflow can continue if needed, make sure you use the <%!OUT1!%>, <%!OUT2!%>, etc. tag. ContentAgent will then define and allocate the output file location(s) automatically.

Usage

For example, use ffMPEG to output an AVI and MP3 as part of an automated workflow:
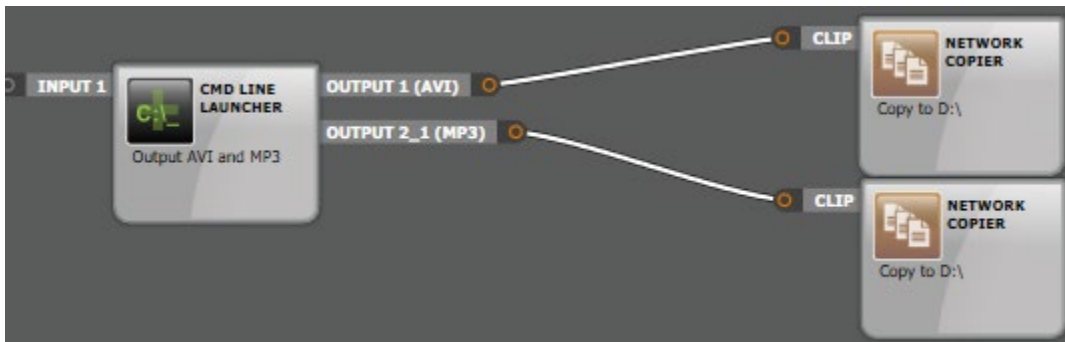
Figure 123 - Workflow - CMD Line Launcher

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SECTION 4 - Import Tab

4.1 Introduction

Use this tab to perform batch imports of supported media types into the ContentAgent store, or directly for submission into a workflow
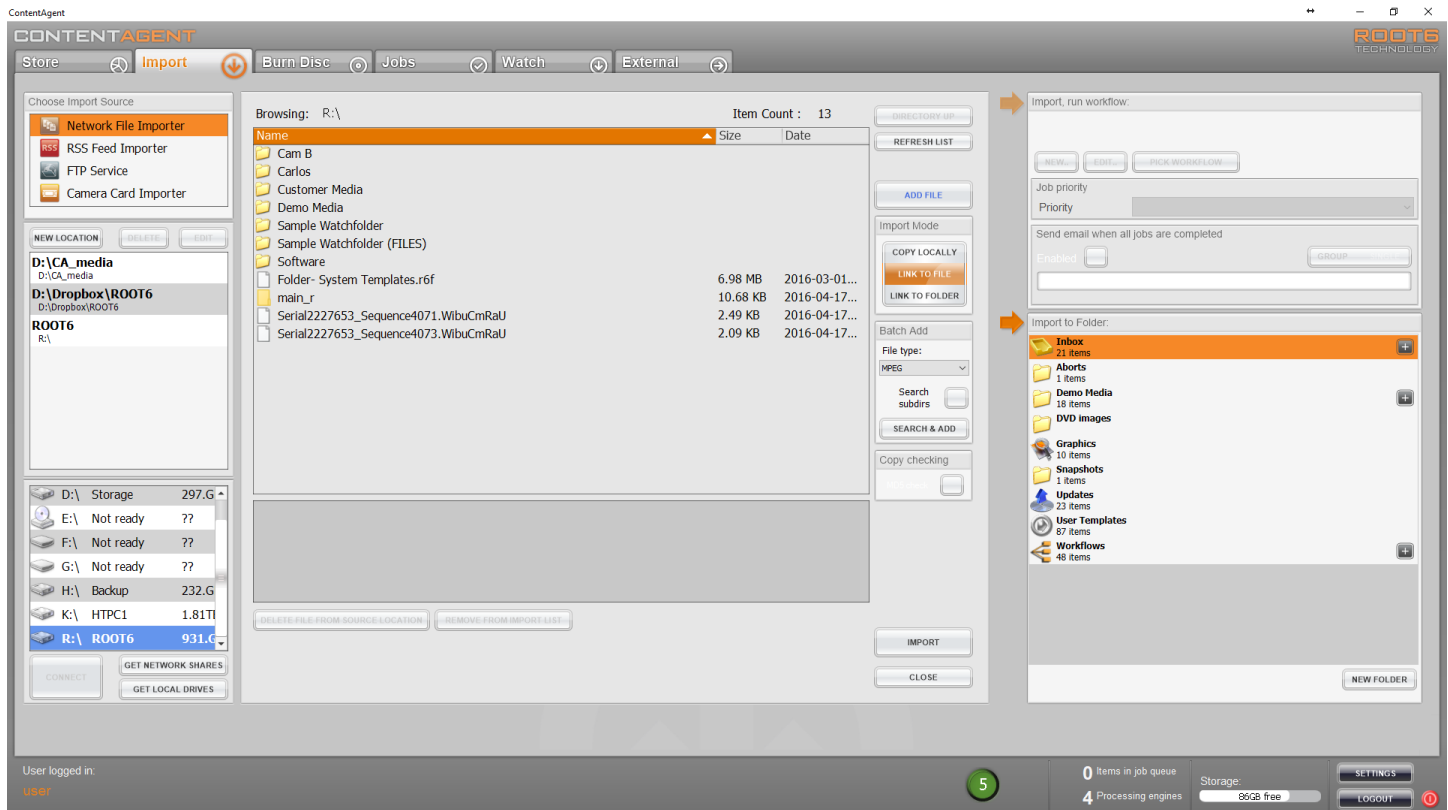
Figure 124 - Import Tab

Note that width of the pane on the left of this tab can be altered simply by positioning the mouse over the gutter between it and the central pane, then clicking and dragging left or right. This enables you to have more space for import drive locations and paths or the contents of the selected drive, as required.

If this is the first time you have accessed the Import tab, you will see several default 'services' listed: an RSS Feed Importer, a Network File Importer, an FTP Service, plus the powerful Camera Card Importer.

Each 'service' may have a number of 'locations', i.e. unique addresses that will be used to source the material you wish to import. To add a new location to the list, see below.

Note that it is entirely possible to import items other than video and audio clips into ContentAgent. For example, using a USB key you might want to import a PDF or other file type, and then email that to clients with a video clip or reel. To access material on 'local' drives, select **Get Local Drives,** at the foot of the window.

Get Network Shares enables you to access files on all the networked machines that you are allowed to connect to. You will, of course, need to know the appropriate usernames and passwords before you can use this facility.

Imported files can be directed to any folder in the Store. From there, they may be manipulated and distributed within ContentAgent's filing system, or passed on to any number of destinations via the Job Workflow system (see Section 3 for more on Job Workflows).

Note that with the Camera Card Importer, a scan will begin immediately once you browse to a location – therefore be wary if scanning a large volume; creating a NEW LOCATION directly to a lower level folder is recommended in this case.

4.2 Adding New Import Locations

First, select the required type of service from the list. Your options are:

1. **Network File Importer** - This source type is the most common, as it allow you to browse to specific locations and select a group of individual files
2. **FTP Service** – allows you to download and import files directly from an FTP location
3. **Camera Card Importer** – scans a specific location for raw camera card structures, which you can then import directly into the ContentAgent database as a single item

To add a new external location, click on the New Location button:

Now enter a simple description of the import source, to make this location easily recognizable, followed by its address. If required, enter the username and password that will be needed before anyone can access this location. The format of the Address is \\Server\Share. The format of the username is DomainAuthenticationServer\Username. Note that the Key Input button calls up a large-format keyboard for use with the optional touchscreen.

Your new location will be added to that service in the list on the lower left of the main Import tab window.

To save you the inconvenience of having to fill out these details for each location, a drag'n'drop facility is provided so that, once you have accessed the 'parent' location, you can select any file or folder within that location and drag it into the new location list.

TIP: you can also drag a folder from Windows Explorer into the location pane on the left, to create a shortcut directly!

4.3 Batch Import

To batch import a set of files, first navigate to the directory containing the files you want to import. If you want to search sub-directories too, ensure that the Search subdirs option in the Batch Add panel is ticked. On the same panel, select the File type: that you want to batch import and then click on the Search & Add button. The files matching your selected file type will appear in the selected file list. To import them into ContentAgent, simply left-click on the Import button.

4.4 Deleting a Location

Select (blue) the location you want to delete, and click on the Delete File from source location button.

Note that the location Delete function has an instantaneous effect.

4.5 Editing a Location

The basic details of a location may be edited by selecting the location followed by Edit. A similar pop-up appears as for Add Location.., where you may edit the address, description, username and password.

4.6 Selecting the Import Destination

Before you connect to an external location, you will need to select the destination folder for the imported material. The Import to Folder list on the right hand side of the Import tab lists all the folders in the store; the default import folder is the Inbox. Navigate to the required folder and select it (orange).

4.6.1 Using Workflows

Alternatively, you may choose to use a workflow to define the import process. Click in the Import, run workflow box and then click on the Pick Workflow button. This accesses a list of pre-existing workflows.

If none of the existing workflows is suitable, click on New to access the Workflow Designer window. This uses the same principles for defining a job workflow as described in Section 3 of this manual.

4.7 Connecting to a Location

To connect to a location, simply double-click on its entry (on the left of the Import window), or select it first and then click on the Connect button. Depending on how you have set up your import service templates, this may produce a sign-in pop-up (if you have not specified a username and password in the template). When you have logged in successfully once, your details will be remembered until ContentAgent is shut down.

4.7.1 Import by FTP

For an FTP site, you will need to enter your username and password (if not specified in the FTP template). You can also specify a subfolder to log directly into in the FTP template (e.g. ftp.ftpsite.com/subfolder).

Click on the + next to a folder to reveal the subfolders within that folder. Click on the - next to a folder to close that folder. Click on a folder to display the items within that folder in the list on the right.

Select the required file and instigate the import by clicking on the Fetch button. Multiple files may be selected for batch import by using Control-click or Shift-click followed by Fetch. Note that files may only be selected from one folder at a time.

4.7.2 Import from Local and Remote Drives

You may wish to 'import' material from local drives within ContentAgent or external drives connected to the USB or FireWire connectors provided on ContentAgent's rear panel.

If no drives are listed in the bottom left of the Import window, press the Get Local Drives button. To import from a listed drive, simply double click on the drive name. Note that inserting new drives/media can sometimes take a while to register, so they may not show up immediately when you click on Get Local Drives. Please be patient!

Double-click on a folder to open it. Use Directory Up to return through the hierarchical file structure. When you locate a file you want to import, double-click on it to add it to the box in the lower half of the window, or select the file and click Add File. To select multiple, sequential, files, hold down the keyboard Shift key while you click on the files. Multiple, non-sequential, files can be selected by holding down the Control key and clicking on the files. Copy multiple selections to the lower box by clicking Add File.

Files can be sorted using the Order By: buttons; you can sort by Name, Date or File Size, in forward or reverse order. You can also Refresh the list view if you know that files have been added to a folder while you have been viewing that folder (the view is not automatically updated).

Any file selected erroneously can be deleted from the lower box by selecting the file followed by Remove from Import List

The Delete from Source Location option, network permissions depending, will allow you to delete files from servers/network locations. Use this with caution!

On the right of the file browser are three import options: **Copy Locally**, **Link to File** and **Link to Folder*.**

The default option for this form of file import is Copy Locally; this will copy a clip and its media file from the original location into ContentAgent's managed media directory (see Section 2 for more on media files). Use this option when you cannot guarantee that the drive you are importing from will always be available when you need to access the file, or if the ContentAgent drive is considerably faster than the drive you are importing from.

If you select Link to File, and import a clip, the clip will be added to the selected destination folder but its associated media file will not. The link to the original media file is only temporary, and will be forgotten when ContentAgent's managed media databases are rebuilt — usually when the system is booted up, or by selecting Rebuild media database in the Settings menu Database window (see Section 8 for more details). When a link is lost, you will see a red warning on the clip to indicate that the media is unavailable. You must then Import the clip again to remake the link (and delete the previous 'off line' clip).

Link to File is particularly useful when you want to transcode a file into a different format. In this instance, there is no advantage in having the media file available locally unless you want to play back the original (your network connection may not be fast enough for this to work well enough anyway). If the file is large, it could take a long time to import onto ContentAgent so you might as well be transcoding at this stage anyway.

If you have files on an external drive or network share, do not bother copying them onto ContentAgent if all you need to do is transcode them. Import them with Link to File and then use a Job Workflow with transcode template to assign the clip directly to a DVD burn, for example. Bear in mind that the performance of this process may be limited by the network connection to the clip.

*_Link to Folder_ has a similar function to Link to File but is designed **only for use with image sequences**, where individual frames are held as files in a remote folder. Browse to the folder containing the frames, and import it with Link to Folder to treat the frames as a sequence.

Once all the required files have been selected, and are in the lower box, having determined the most appropriate import mode, select Import to instigate the copy process. The import process will be added to the job queue.

To return to the Import tab window at any time, click on Close.

4.7.3 Import from an RSS Feed
This option (the acronym RSS is most commonly interpreted as 'Really Simple Syndication', aka Podcasts)

It allows you to access and import material from any website that provides a syndicated RSS feed; the data is delivered as an XML file.

To set up the Import tab to receive RSS feeds, select New Location (on the left of the Import window), and then select RSS Feed from the list in the top of the resultant pop-up. Now enter the relevant details in the boxes below.

When you hit OK, this new location will be added to the list that appears when you select the RSS Feed Importer import option.

To import an RSS feed, select it (blue) in the RSS Feed Importer list and then click on Connect. A new window appears from which you may select material from the chosen website. Select a destination folder and then hit the Import button. The download will be added to the job queue. Rather than just downloading a feed to the Store, why not set up a workflow that can process the feed and pass it on to an external destination — your own laptop, for example!

Note that the Settings menu contains parameters for the automatic checking and download of material from RSS websites

4.8 Importing Camera Cards

ContentAgent can automatically recognize a large variety of camera card formats. For an up to date list, please visit www.telestream.net/contentagent/contentagent-technical-specifications. For a deeper understanding of how these cards are recognized, please contact casupport@telestream.net.

Start by choosing the Camera Card Importer as your Import Source. Then either double click an existing location, or click GET LOCAL DRIVES to browse to a volume, e.g. an external hard drive. See above (Section 4.2) for information on creating a new import location.

As soon as you open a location, a scan commences. Any recognized card structures (throughout the entire location, including subfolders) will appear in the middle pane. At the top you will see the number of camera cards found, at the bottom will indicate how many directories were scanned. Note that, depending on the size of the volume, this may take some time. Scan completion is indicated when the number of directories scanned ceases to increment, please be patient!
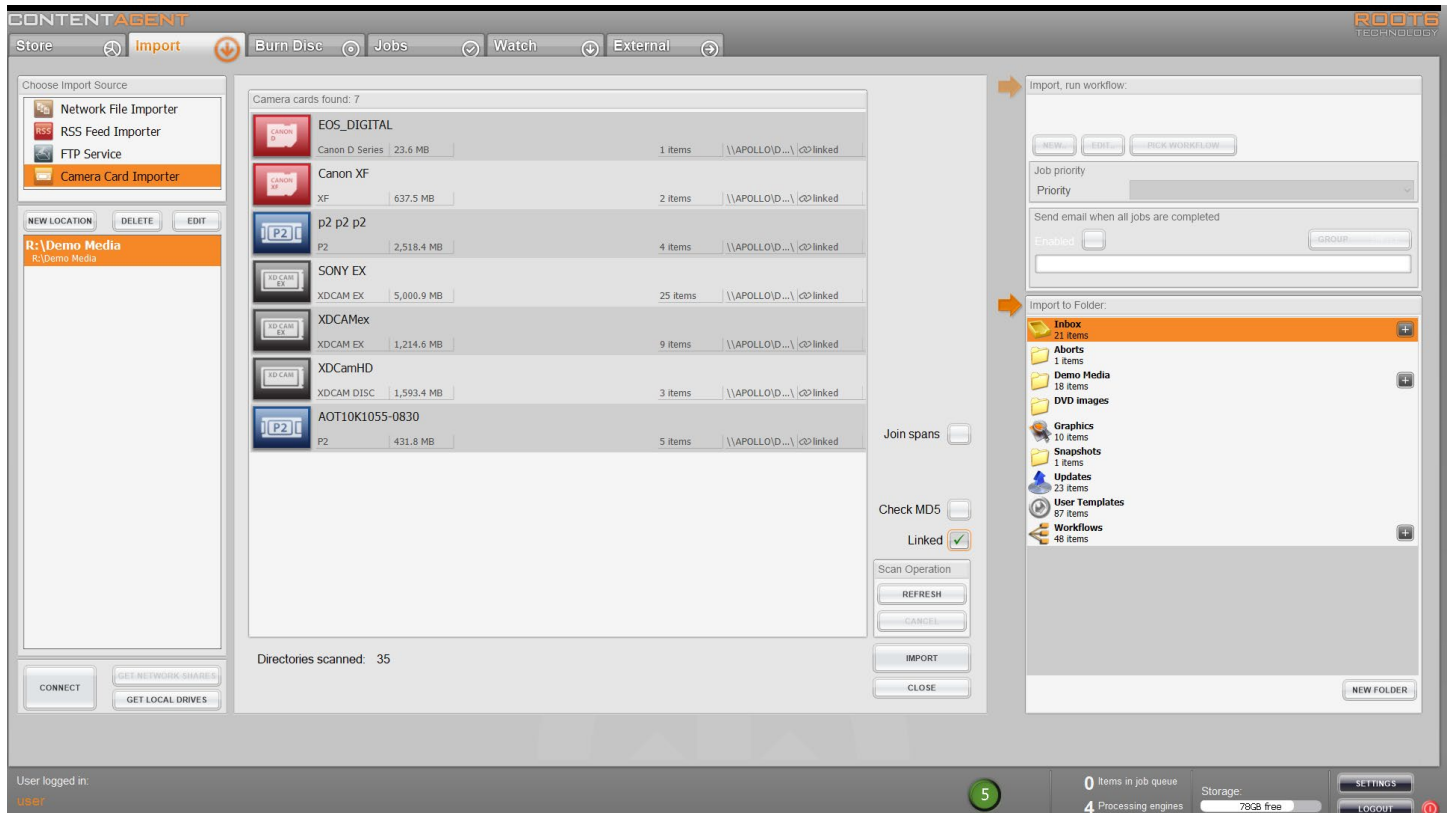
Figure 125 - Import Tab - Camera Cards

Next, choose a card by highlighting using the mouse, or batch of cards by using the SHIFT or CTRL keys. Selected items will when be added to the queue as soon as you click IMPORT.

Import options on the right may be important to your process:

1. **JOIN SPANS** – some card formats (e.g. Sony XDCam HD, Sony XDCam EX, Panasonic P2) separate single clips into multiple physical files (to avoid file size limitations). These are known as Spanned Clips. To maintain these files as single clips, tick the join spans box. NOTE; ContentAgent does not currently support spans which cross multiple cards.
2. **Check MD5 –** this will generate an MD5 checksum on import to ensure data is copied bit for bit. Note that this adds significant time to the import process.
3. **Linked** – keep this box ticked if you want to import directly from you source location into the database as a link, rather than copying the card structure into the Media Pool first.

Once you have selected your card(s) and chosen options, you can either import these as items into the Store (pick a folder on the right, click Import) or directly into a workflow. In the latter case:

1. Click in the 'Import, run workflow' area at the top right
2. Choose PICK WORKFLOW, select your desired workflow
3. Click EDIT to make any needed changes. NOTE: Any changes made here will not be saved into your original workflow – you are working with a new instance.
4. Click Import to submit your cards directly to the selected workflow. You will see the Job Queue populate accordingly.

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SECTION 5 - Watchfolders

ContentAgent provides the extremely useful ability to monitor folders on network shares, and to automatically apply workflows to any files that are copied into those folders. Note that the system monitors a parent folder as well as subfolders within a Watchfolder.
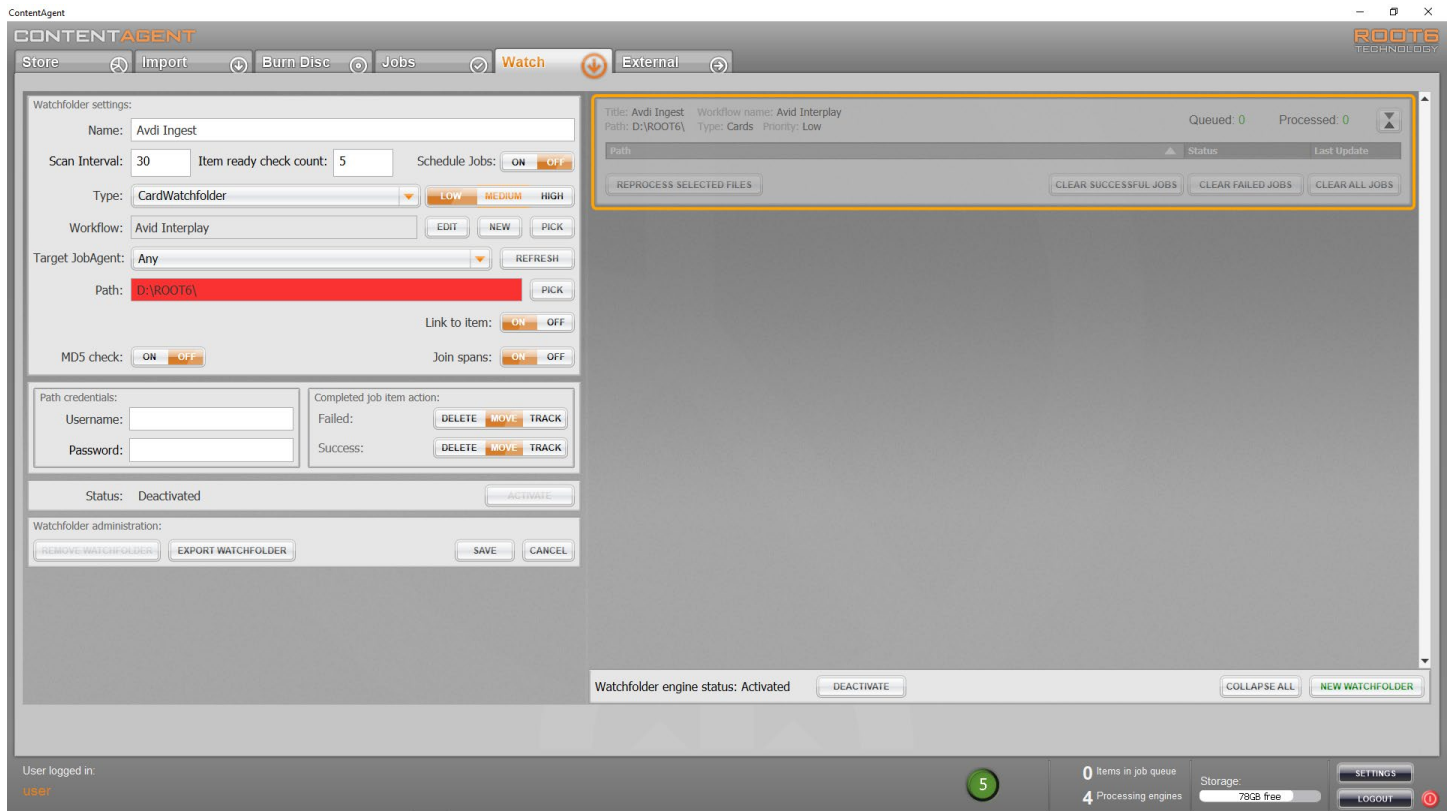
Figure 126 - Watch Tab

5.1 Setting up Watchfolders

Navigate to the **WATCH** tab

1) Click **NEW WATCHFOLDER** at the bottom right
2) In the **Watchfolder Settings** window, set the following:
    a. **NAME**
    b. **SCAN INTERVAL** (NB 5 seconds is the lowest recommended interval)
    c. **TYPE** - Choose your desired input format along with the folder's priority.
    d. **WORKFLOW** – click PICK to select an existing workflow
    e. **TARGET JOBAGENT** – route this watchfolder's jobs to a specific system if desired
    f. **PATH** – Click PICK to browse to the folder you would like ContentAgent to monitor
    g. **Link to Item** – ON if you want to process directly from the source location. OFF if you want files to be copied into the Media Pool prior to processing

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h. **COMPLETED JOB ACTION** – DELETE/MOVE/TRACK
   i. DELETE – deletes your source file after processing
   ii. MOVE – moves your source file into a subfolder called FAILED or SUCCESS depending on result after processing
   iii. TRACK – keeps track of processed jobs in the WATCH tab. NB If you use TRACK, clearing the list for a specific watchfolder will clear tracking data, and files will be resubmitted if they have not been moved.
3) Click **ACTIVATE -** *Ensure that the master Watchfolder Engine Status is* **ACTIVATED** otherwise you will not be able to activate any watchfolders
4) Click **SAVE.** Your watchfolder is now ready!
5) To make changes to an existing watchfolder, simply left click the item and edit accordingly. You will need to deactivate the watchfolder before making changes.

5.2 Watchfolder Type

i. **STANDARD** – files will be added to the Job Queue as they come in
ii. **CardWatchfolder** – CA will wait until an entire camera card structure is present before beginning processing. NB Make sure to drop the entire raw camera structure into the folder. The top folder will then be used as your card name. For example, if you are dropping in a C300 card your path would be \Watchfolder\MYCARD\CONTENTS and MYCARD would be the name of the card.
iii. **ImageSequence** – looks in a subfolder for a sequence of image frames to be treated as a single clip. This can be triggered via sequence.xml file or not. In the former case, we will wait until the trigger xml is present prior to scanning there should be a file at the same level as your image frames called *sequence.xml.* This XML file can be blank, or in a structure like:

```
<?xml version="1.0" encoding="UTF-8"?>
  <DPX>
    <LUT value="LIN" />
    <FPS value="24" />
  </DPX>
```

iv. **QTRef** – designated for QuickTime Reference .mov files. This method will ignore any additional files, e.g. .wav or .aiff to avoid separate processing.
v. **GrowingMXF** – starts the workflow process on source files that are still being transferred into the folder.
   I. **Only Op1a MXF files are supported**
   II. **Job will start once the file reached 100MB in size**

Tip: If using a 'Standard' watchfolder, you can drop in a Windows shortcut to the file (.lnk) instead of the actual media!

5.3 Exporting Watchfolders

If you wish to save your created Watchfolders, they can be exported into the ContentAgent store. This can be either for individual Watchfolders, accessible by clicking on the "Export Watchfolder" button in Settings->Watchfolders panel or all together, which can be accomplished by clicking on the "Export All" button.

5.4 Importing Watchfolders

You can copy the Exported Watchfolders into the same or another ContentAgent system. Either you can then play them in the Store, which will Import them into the Watchfolder engine, or you can browse to them manually in Settings→ Watchfolders.

5.5 Troubleshooting

My Jobs will not start.

Ensure you have a workflow and valid path defined in the settings and ensure that the scan interval is not set to too long a period. Ensure the Watchfolder engine is activated and that the individual Watchfolder is activated as well.

If your watchfolder type is CardWatchfolder, then there is good chance the raw structure is missing folders. Verify that the entire structure is present.

The Watchfolders will write out any errors to the ContentCentral console window, so if you believe there is a problem, please look in there for any clues as to the trouble.

SECTION 6 – External Tab

This tab displays connection job status for specific 3rd party plugins supported by ContentAgent. Note: As opposed to standard nodes, e.g. Platinum, progress and status for jobs using these plugins will be shown ONLY in the External tab, rather than in the Jobs tab.

Plugins displayed here include:

- Aspera delivery
- FileCatalyst delivery
- Minnetonka Audio Tools Server
- VidCheck Verification
- Cerify Verification
- Baton Verification

Only plugins that have been enabled (within Settings) will be visible here, and will be denoted as Online (within a full colour icon showing) or OFFLINE (greyed out).
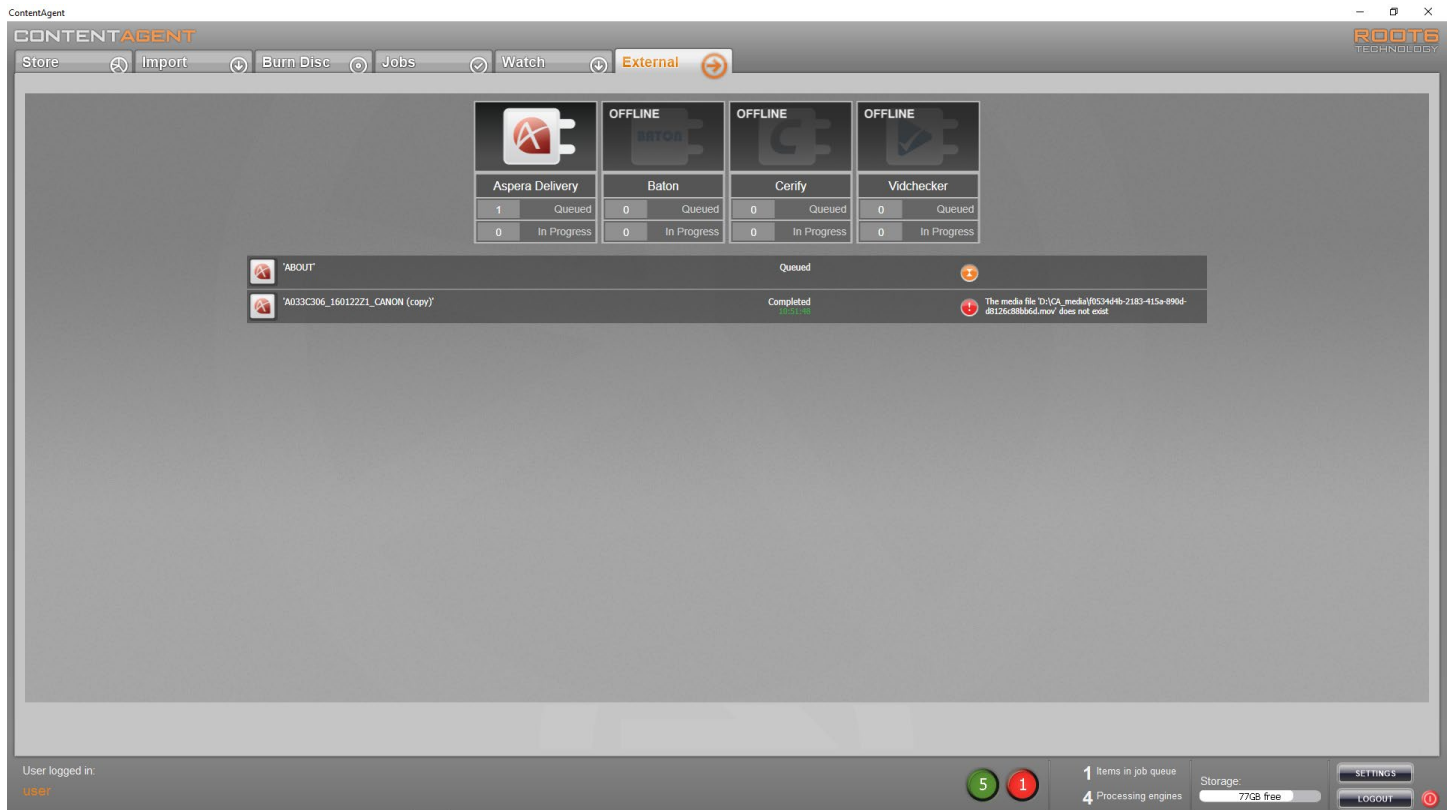
Figure 127 - External Tab

SECTION 7 - Best Practices

Follow these guidelines to ensure your ContentAgent system continues to operate optimally.

7.1. ContentAgent

7.1.1 User Accounts

It is recommended to login under a non-admin ContentAgent account for everyday use. The Admin account contains System Templates and Metadata Schemas, which should only be altered by power users. The default login for the standard account is Username: user Password: user. You can create new user accounts by logging in under the admin account, and clicking EDIT USERS.

ContentAgent power users can use the Admin account for general purpose if needed.

7.1.2 Playback

It is recommended that you do not attempt to play back media from the Store under heavy system load – for example, while multiple transcodes are underway. This can adversely affect both transcode and playback performance.

7.1.3 Import

Ensure that the correct Import type is chosen to avoid long delays or errors. If importing Camera Card structures, choose the Camera Card Importer, and LINK TO FILE (unless you need to copy the entire structure to the ContentAgent Media Pool first)/ If importing loose files, choose the Network File Importer and either COPY LOCALLY or LINK TO FILE. DO NOT choose LINK TO FOLDER unless importing an *image sequence*.

NB you can easily import loose files (not Camera Cards or Image Sequences) by dragging and dropping a folder containing files, or a batch of files, directly from Windows Explorer into a folder in the Store tab. This method will LINK TO FILE by default.

7.1.4 Updates

ContentAgent updates are delivered as .r6u files, which should be imported into ContentAgent, and 'played' directly from the Store tab. To ensure updates go smoothly:

- Ensure all JobAgent systems are online and connected
- Ensure there are no jobs currently processing
- Ensure you are logged into Windows as an Administrator

7.1.5 Store

Too many items in a single folder will start to slow performance; create separate folders or subfolders to avoid this long scan times.

7.1.6 Database

Database backups are automatically stored in C:\ProgramData\ROOT6\ContentAgent\Database\Backups on the ContentCentral system; copy a recent backup to an external location for safekeeping should there be a system failure. To change the default backup location please contact Technical Support (Contacting Telestream) for more information.

7.1.7 Media Drives

Sometime there will be orphan media (i.e. media in the Media Pool but not referenced in the database) taking up space unnecessarily on the designated media drives. Monitor available space at the bottom right of the ContentAgent UI. It is advised to keep a minimum of 10 GB free at all times.

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Orphan media can result from:

- Abnormally aborted jobs
- Workflows incorrectly configured
- Corrupt media

Go to Settings->Database->View Orphan Media to scan and clean up orphan media on a specific drive. The Media Pool location is defined in Settings->Media Drives. There may be one or more locations defined.

There may also be times where orphan temporary media is left behind. If there are no jobs in progress, the following folders should be empty. If not, delete any files from here to free up space:

<MEDIA POOL PATH>\Temp
<MEDIA POOL PATH>\TempMedia

7.1.8 Job Queue

The JOBS tab tracks jobs currently in queue, successfully completed jobs, and jobs that have failed with errors. Clicking CLEAR ALL on one of these three sections will remove the associated jobs from the list. If performing this action on the Queued Jobs section, all current jobs will be aborted.

There may be times where it is necessary to kill all processing and force corrupt jobs out of the queue. To do so, follow these steps:

1. Close CA
2. Close CC (from system tray CC icon, right-click ->Exit)
3. Launch ContentCentral only (from desktop icon, or from C:\Program Files (x86)\ROOT6\ContentCentral\ContentCentral.exe)
4. Open CC Administration (from system tray CC icon, right-click ->Show Management Window)
5. Click the Workflows tab, then Clear Queue; after the first pass, click repeatedly to ensure all jobs have been cleared.
6. Start ContentAgent (from desktop icon)

In Settings->General->Job Queue, the user can define how many completed jobs are listed. This is limited to 999 by default. Note that database performance can be adversely affected should this list grow too large.

7.1.9 Watchfolders

Depending on how your watchfolders are configured, some manual maintenance may be needed to ensure optimal performance.

1. If a watchfolder is set to DELETE or MOVE upon successful or failed jobs, no manual maintenance is needed.
2. If set to TRACK, since ContentAgent will keep this information in the database, it is recommended that the watchfolder is emptied periodically to avoid long scan times. NB Clicking 'CLEAR ALL JOBS', 'CLEAR SUCCESSFUL JOBS', or 'CLEAR FAILED JOBS' on a specific watchfolder will clear tracking information, causing any files/folders that are present to be automatically resubmitted.

7.1.10 SHUTDOWN

If a system shutdown or restart is required, follow these steps to correctly close ContentAgent:

1. Ensure no jobs are currently processing
2. Click the red power button at the bottom right of the UI. NB this will only close the ContentAgent UI.

3. Locate the ContentCentral icon in the Windows System Tray. Right-click this and select EXIT. This will close ContentCentral along with your local JobAgent process.
4. You can now safely restart your Windows system.
5. Any remote JobAgents will automatically reconnect once ContentCentral is back up and running.

7.2. Windows System

7.2.1 Windows Updates

If the system is connected to the internet, Automatic Updates should be set to download only, so install can be performed at an opportune time. ContentAgent should be closed while installing Windows updates.

The system should not go more than 6 months between update checks and installations. If the system is not connected to the internet, updates should be installed manually on the same time scale.

7.2.2 User Accounts

It is recommended to use the same user account for Windows login at all times. This should be the same account under which ContentAgent was originally installed. Alternatively, the system can be configured to allow access for any user with Administrator privileges if required. Contact Technical Support (Contacting Telestream) for more information.

If User Account switching is required, and Administrator privileges are not granted to the alternate account, permission will need to be granted to the SQL Database accordingly. Contact Technical Support (Contacting Telestream) for more information.

7.2.3 Power settings

Inappropriate power or screen saver settings can interrupt or impair ContentAgent performance. Ensure the settings are as follows:

- Screen Saver: None
- Turn off monitor: Never
- Turn off hard disks: Never
- Hibernate: Never
- Put the computer to sleep: Never

7.2.4 Software

- It is recommended to keep the system as clean as possible. Do not install any software not approved by Telestream. Approved applications include:
    - Telestream ContentAgent
    - Telestream ContentCentral
    - Telestream JobAgent
    - Apple QuickTime Player
    - Google Chrome
    - Mozilla Firefox
    - Aspera Connect
    - Avid Client Manager
    - Avid Interplay Access
    - Avid QuickTime Codecs for Windows
    - VidChecker
    - Minnetonka Audio Tools Server

- Rimage Production Software Suite
- MediaInfo
- If the software you are intending to install is not included above, contact Technical Support (Contacting Telestream) prior to installation for guidance.

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SECTION 8 - Advanced Operation

8.1 Add Custom Metadata

Follow these steps to import XML metadata along with a clip via a Watchfolder. Note that if you import as a linked clip, and an XML of the same name exists in the same folder, it will also be merged. You can view this metadata by looking at the clip's info after Import.

1.   Create a simple XML file, e.g.:

```xml
<?xml version="1.0"?>

<Custom_Metadata>
        <TITLE>put your title here</TITLE>
        <CITY>put city here</CITY>
        <OrderNumber>####</OrderNumber>
        <Airdate>AirDate here</Airdate>
</Custom_Metadata>
```

2.   This can be done through Notepad or any simple XML editor. The XML can also contain nested tags, which will be added as metadata 'groups' in our database.
3.   Save the file with the EXACT SAME NAME as your source video file

Now you can drop this XML file, along with your source video file, into your watchfolder. The process will begin, and all fields and values in your XML will be parsed and added to your clip. **NB** *the XML file MUST be in the folder before the video file, otherwise we will begin to process the video file without adding your custom metadata.*

To test, make a simple workflow containing a single 'Store' step (e.g. Store in Inbox) and use this with your watchfolder. Follow the steps above, and once the file has been imported into the Store tab, you can click Info and checkout your custom metadata!

8.2 Using the ContentAgent XML API

The XML API function of ContentAgent allows you to trigger jobs via an XML file. This XML file contains all necessary info – title, file location, workflow to be run, and any custom metadata.

 If dropped into a watchfolder, the system will ignore the workflow specified in your Watchfolder settings, and use that specified in you XML instead.

 NB in Settings->Watchfolders; **ensure that 'Don't import XML' is NOT ticked.**

Your XML should look something like this:

```xml
<?xml version="1.0" encoding="utf-8"?>
  <CONTENTAGENT>
     <CONTENTAGENTJOB>
        <SEQUENCE_FILESOURCES title="XML test">
           <FILESOURCE title="SAMPLE" filepath="H:\thisisatest.mov">
              <CLIPMETADATA>
                 <METADATACOLLECTION>
                    <METADATA groupname="SAMPLE" copyinc="true">
                       <DATA name="AdID" displayname= "AdID" type="TextField" value="AFH14YHSHBGH"/>
                       <DATA name="RunTime" displayname= "RunTime" type="TextField" value="30"/>
                       <DATA name="AdTitle" displayname= "AdTitle" type="TextField" value="test"/>
                       <DATA name="Client" displayname="Client" type="TextField" value="ROOT6"/>
                    </METADATA>
                 </METADATACOLLECTION>
              </CLIPMETADATA>
           </FILESOURCE>
        </SEQUENCE_FILESOURCES>
```

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```
        <STOREWORKFLOW workflowname="my workflow" workflowid="" useraccount="User"/>
    </CONTENTAGENTJOB>
  </CONTENTAGENT>
```

The above XML, if dropped into a Watchfolder, will do the following:

 i.   Create a ContentAgent reel (sequence) called "XML test"
 ii.   Add the file h:\thisisatest.mov to the sequence (just points to it, file is not moved/copied)
 iii. Add a custom metadata group called SAMPLE to the clip (copyinc="true" ensures that the metadata sticks with the clip through all processes)
 iv.   Add custom fields for AdID, RunTIME, AdTitle and Client to the clip
 v.   Populate these fields with the values indicated in the XML (value="")
 vi.   Start the workflow named 'My Workflow' (this should match the workflow title exactly as displayed within ContentAgent)

You can add more lines (<DATA name="xxxxx" displayname="xxxxx" type="TextField" value="xxxxx" />) as needed, so long as they nested within the <METADATA> tag as per above. Text highlighted in blue should be customized as per your requirements

You can also add multiple clips to the same XML, and these jobs will be submitted together. Thus, if you have a workflow, which requires multiple clips to be submitted as one (e.g. for a DVD/BluRay for a single disc with multiple clips, or if want to join multiple clips together for a single, sequential output) your XML would look something like:

```xml
<?xml version="1.0" encoding="utf-8"?>
  <CONTENTAGENT>
    <CONTENTAGENTJOB>
      <SEQUENCE_FILESOURCES title="XML test">
        <FILESOURCE title="SAMPLE" filepath="H:\thisisatest.mov">
          <CLIPMETADATA>
            <METADATACOLLECTION>
              <METADATA groupname="SAMPLE" copyinc="true">
                <DATA name="AdID" displayname= "AdID" type="TextField" value="AFH14YHSHBGH"/>
                <DATA name="RunTime" displayname= "RunTime" type="TextField" value="30"/>
                <DATA name="AdTitle" displayname= "AdTitle" type="TextField" value="test"/>
                <DATA name="Client" displayname="Client" type="TextField" value="ROOT6"/>
              </METADATA>
            </METADATACOLLECTION>
          </CLIPMETADATA>
        </FILESOURCE>
        <FILESOURCE title="SAMPLE2" filepath="H:\thisisatest2.mov">
          <CLIPMETADATA>
            <METADATACOLLECTION>
              <METADATA groupname="SAMPLE" copyinc="true">
                <DATA name="AdID" displayname= "AdID" type="TextField" value="CYH14YHSHBGH"/>
                <DATA name="RunTime" displayname= "RunTime" type="TextField" value="30"/>
                <DATA name="AdTitle" displayname= "AdTitle" type="TextField" value="test2"/>
                <DATA name="Client" displayname="Client" type="TextField" value="ROOT6"/>
              </METADATA>
            </METADATACOLLECTION>
          </CLIPMETADATA>
        </FILESOURCE>
      </SEQUENCE_FILESOURCES>
      <STOREWORKFLOW workflowname="my workflow" workflowid="" useraccount="User"/>
    </CONTENTAGENTJOB>
  </CONTENTAGENT>
```

Here, a single reel would be created, called "XML test", but would now contain two clips. If, for example, your workflow ("my workflow", in this case) contains a Platinum node, and Join Clips When Transcoding a Reel is selected in the template, then both clips (thisisatest.mov and thisisatest2.mov) would be joined together on the Platinum output, called 'XML Test'. If, for example, you have a DVD authoring node in your workflow, then the two clips would be submitted as a single disc authoring process.

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8.3 Stitch files via Watchfolders

ContentAgent supports the submission of user playlists via watchfolders. The primary use of this would be to allow the stitching of clips together automatically.

Set your Watchfolder Type to CardWatchfolder. Setup as normal (Section 5)

1. Drop files in to a very specific folder structure, so that ContentAgent recognized all clips as a single playlist

Folder: CARDNAME (this is how the reel will be named, and is a custom entry)
   ↳ Subfolder: Root6-Playlist (this must be named exactly as shown for ContentAgent to recognize the structure)
      ↳ Files (within the Root6-Playlist folder). Clips will be submitted/sorted alphabetically.
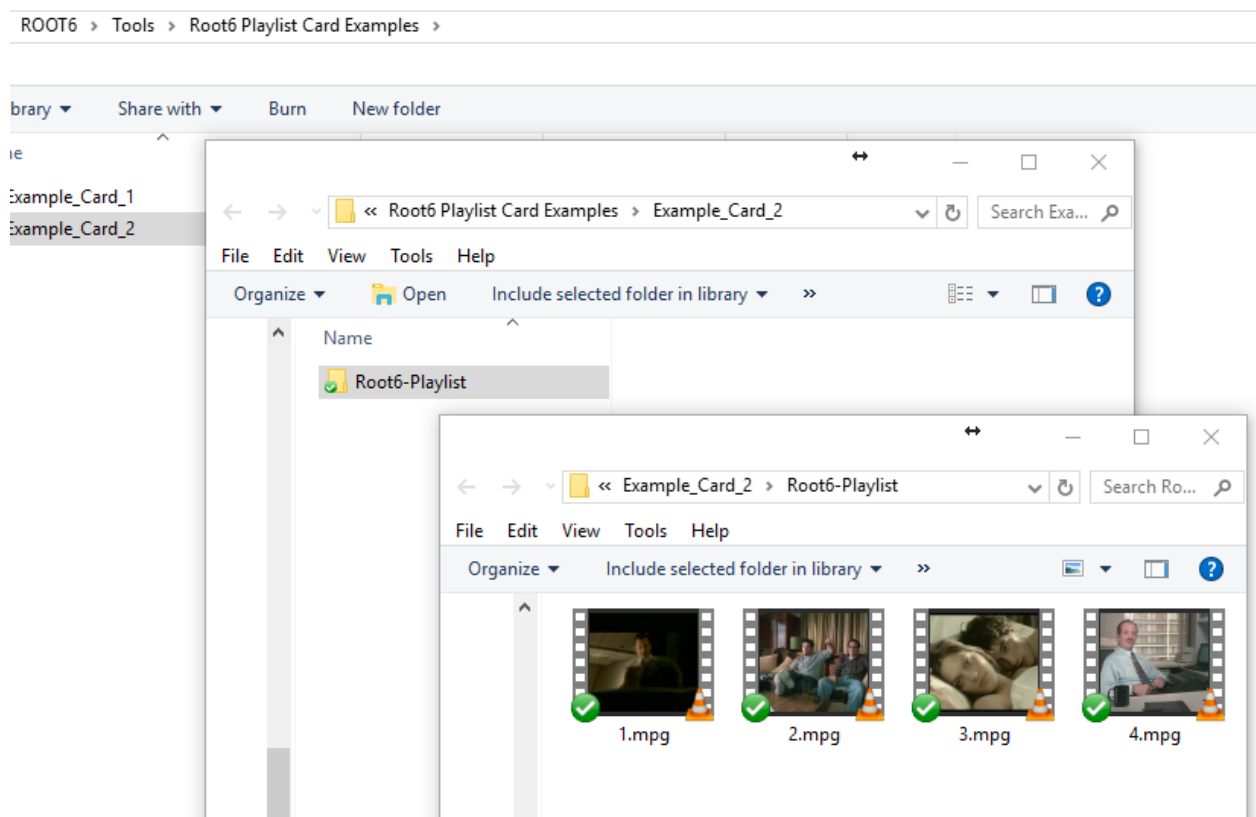
Figure 128 - Root6-Playlist

If naming files sequentially is not an option, you can also define a custom playlist order by providing additional metadata. This method also allows you to set custom in and out points on clips, and add clip or card (playlist) specific metadata, which may be useful in your workflow.

To do so, prior to dropping the playlist folder in your watchfolder, add an XML file, alongside the Root6-Playlist folder, in the following structure: (using the pictured example above as reference)

```
<CONTENTAGENT>
  <PLAYLIST>
      <ITEM name="2.mpg" startframe="100" endframe="210"/>
      <ITEM name="1.mpg" startframe="0" endframe="30"/>
      <ITEM name="3.mpg" startframe="50" endframe="63"/>
```

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```
                <ITEM name="4.mpg" startframe="50" endframe="63"/>
            </PLAYLIST>
            <CARDMETADATA>
                <METADATACOLLECTION>
                    <METADATA groupname="SAMPLE" copyinc="true">
                        <DATA name="AdID" displayname= "AdID" type="TextField" value="AFH14YHSHBGH"/>
                        <DATA name="RunTime" displayname= "RunTime" type="TextField" value="30"/>
                        <DATA name="AdTitle" displayname= "AdTitle" type="TextField" value="test"/>
                        <DATA name="Client" displayname="Client" type="TextField" value="ROOT6"/>
                    </METADATA>
                </METADATACOLLECTION>
            </CARDMETADATA>
        </CONTENTAGENT>
```

The above will add a custom playlist order, along with overall card metadata. Note that these are both optional when submitting a Root6 playlist.

To add clip-specific metadata, add individual XML files within the Root6 Playlist folder, named identically to the relevant clip. E.g., using the example above, you would have 1.xml, 2.xml, 3.xml etc… The structure of these XML files is similar to the above, with some slight differences:

```
        <CONTENTAGENT>
            <CLIPMETADATA>
                <METADATACOLLECTION>
                    <METADATA groupname="SAMPLE" copyinc="true">
                        <DATA name="AdID" displayname= "AdID" type="TextField" value="AFH14YHSHBGH"/>
                        <DATA name="RunTime" displayname= "RunTime" type="TextField" value="30"/>
                        <DATA name="AdTitle" displayname= "AdTitle" type="TextField" value="test"/>
                        <DATA name="Client" displayname="Client" type="TextField" value=" ROOT6"/>
                    </METADATA>
                </METADATACOLLECTION>
            </CLIPMETADATA>
        </CONTENTAGENT>
```

8.4 Creating new Metadata Schemas

In order to create a new metadata schema, you will first need to login as a ContentAgent Admin (default login is admin/admin). Then:

1. Go to the Metadata Schemas folder (on the left)
2. Choose an existing Metadata Schema (on the right)
3. Click Tools->Duplicate to create a copy of this existing schema.
4. Select the newly created Schema, click Edit.
5. Change the TITLE. This will be the default group name within the clip's metadata once applied, unless overriding using the GROUP tag as per below.
6. Modify the Schema contents. It should look something like this:

```
        <SAMPLE>
            <FIELD1 label="FIELD1" type="text" group="Group 1"/>
            <FIELD2 label="FIELD2" type="select"/>
            <FIELD3 label="FIELD3" type="date" group="Group 2"/>
            <FIELD4 label="FIELD4" type="select"/>
            <FIELD5 label="FIELD7" type="text" group="Group 1"/>
            <FIELD6 label="FIELD8" type="text"/>
            <FIELD7 label="FIELD9" type="text"/>
        <valuesets>
            <valueset name="FIELD2">
                <option value="1">1st</option>
                <option value="2">2nd</option>
                <option value="3">3rd</option>
                <option value="4">4th</option>
            </valueset>
            <valueset name="FIELD4">
                <option value="A">A</option>
                <option value="B">B</option>
                <option value="C">C</option>
                <option value="D">D</option>
            </valueset>
```

```
                    </valuesets>
                    </SAMPLE>
```

TIP: you can use a text/XML editor of your choosing and paste the modified contents back in when complete.

Variables:

label (mandatory)

This is how your field value will be presented – it will normally match the tag name, for example FIELD1 with label 'FIELD1" will be displayed to the user when populating the specific field. See example blow for a visual representation.

group (optional)

Use this tag to separate your schema details in to multiple groups – this value will be appended to the Schema Title, which is the default group. In this example, we have custom groups Group 1 and Group 2.

type (mandatory)

Here you are designating the type of values which are acceptable in this field. Options are:

1. **select** – gives a drop down of selectable items.
   - *NB: This requires a list of values (options) to be defined, as per the "valuesets" tag above*
2. **date** – gives a Calendar-style 'picker'
3. **text** – allows simple text entry (most commonly used)

To apply your new schema to a clip:

1. Return to a standard user account
2. Select your clip
3. Click info
4. At the bottom, select add metadata schema..
5. Choose your newly created schema
6. To verify, go to the metadata tab (of the clip info window) and look for your new metadata group, fields etc..

Using the example above, you would end up with:

Figure 129 - Custom Metadata Schema

If this schema has been created for use with the Clip Title Auto Metadata Generation node, please refer to Section 3.7.30 for next steps.

8.5 Installing ContentAgent Updates

ContentAgent updates come in the form of .r6u files. These will either be provided to you by Technical Support, or downloaded via the Customer Portal.

Once you have the necessary update files follow these steps to update:

1. Ensure there are no jobs in the queue
2. Import the necessary .r6u file(s) into the Store tab. If you have external JobAgents connected, make sure the .r6u file(s) can be accessed from their location.
3. Select the update file and click 'Play'. You will then be presented with a confirmation dialogue, click YES to proceed.
4. Depending on the type of update, this will either result in the restart of ContentAgent/ContentCentral/JobAgent, or just JobAgent. If you have external JobAgent systems connected, these will also be updated during this process.
5. Once complete, you will either be returned to ContentAgent (if a full software update was performed) or you will see all your processing engines available again (when applying a patch only). You can verify all versions have updated correctly by navigating to the JOBS tab.

SECTION 9 – Quick Reference

Here you will find quick tips on some of the most common tasks performed in CA. For more detail, please refer to the relevant section of this manual.

How can I....?

Create a Workflow

In the Store tab, click Tools->Create Workflow. See Section 3 for further details

Import a File

Easiest way: drag from Windows Explorer onto any folder in the Store tab. This will create a link to the source file location. You can also drag in full folders of files, and the directory structure will be maintained. Note that this is only practical as a substitute for the Network File Import (section 4.7.2). If trying to import Camera Cards (Section 4.8) or Image Sequences (Section 4.7, Link to Folder) you should do so from the Import Tab.

Setup Email Alerts

First, you must configure your eMail server details in Settings->eMail Server. Once this is complete, you can also setup email Groups in this area, and define HTML styles that may enhance your outgoing emails. These are only applicable when sending batch emails from the Import tab, Job Wizard or CardAgent

General email alerts can be configured in Settings->General, to have system alerts sent out based on job completion or failure.

You can also send emails within a specific workflow – see Section 3.7.26 for further information.

Submit a Job

Grab a clip that you've imported into the Store, click New Job, select Simple Job or Apply Workflow and follow the prompts (Section 3).

Or, create a new watchfolder, and submit that way (Section 5). Or, submit directly from the Import tab (Section 4)!

Apply Insert Edits to a DPP MXF Clip

If you have the UK DPP option, you have the ability to perform Insert Edits on DPP Packages created within ContentAgent. This functionality is accessed through the Tools menu. Refer to Section 2.1.2.9 for comprehensive details.

Author a DVD

1) Make a DVD-Compliant MPEG2 using Platinum
2) Go to the Burn Disc tab, choose DVD->Video
3) Click PICK FILES, select your MPEG2(s)

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4) Click Author, set your options
5) Click Start. See Section 3.7.12 for more details!

Stitch Files Together

The key here is to make sure that JOIN CLIPS WHEN TRANSCODING CARDS OR REELS is selected in your Platinum template. Provided this is the case, you can submit a card or reel to this workflow and all clips will be stitched together. See Section 2.1.4 for more details on creating your own playlist (REEL).

This can also be achieved via a watchfolder. Please refer to the Section 8 for further details.

Export Clips

So, you have a clip in the Store but don't know how to get it out? There are a few ways to do this:

1. Your system comes with a default Quick Workflow called Copy to Desktop. So, if this is what you want to do, simply highlight your clip/clips, right-click and select COPY TO DESKTOP. Note that if you have multiple JobAgents in the mix, it will copy to the desktop of whichever system does the job.
2. Network Copier – select your clip/clips, click New Job->Simple Job->Move->Network Copier, and either select an existing template or create a new one. Then hit submit.

Note that any time you want to see the physical file location of a clip, simply click Info then Reveal File.

Export Templates/Workflows/Folders

Sometimes Technical Support may ask you to send over your workflow or template for examination. Or, you want to share your glorious workflows with another ContentAgent user! To easily export such items as transportable files, do the following:

1. In the Store tab, select your workflow(s), template(s), or folder full of such items.
2. Click TOOLS, and from the menu choose EXPORT SELECTED WORKFLOW, EXPORT SELECTED TEMPLATE, or EXPORTED SELECTED FOLDER.
3. This will create a compressed file, in the same folder, containing your selected items
4. Use the steps above (Export Clips) to get this out of the database.
5. The exported file can then be imported into another ContentAgent system, with the contents intact. On the 'importing' system, dragging and dropping from Windows Explorer will automatically expand the contents, or if brought in via the Import tab simply click 'Play' to expand.

Trim Clips

You can trim clips via the Player (Section 2.10) or by selecting a clip, clicking info, and manually entering frame numbers on the right hand side.

If wanting to do a repetitive trim of the same duration, explore the Media Trimmer node in the workflows section (3.7.34).

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