

PROJECT



Caracol TV

A Full Enterprise Media Asset Management System



July 2014

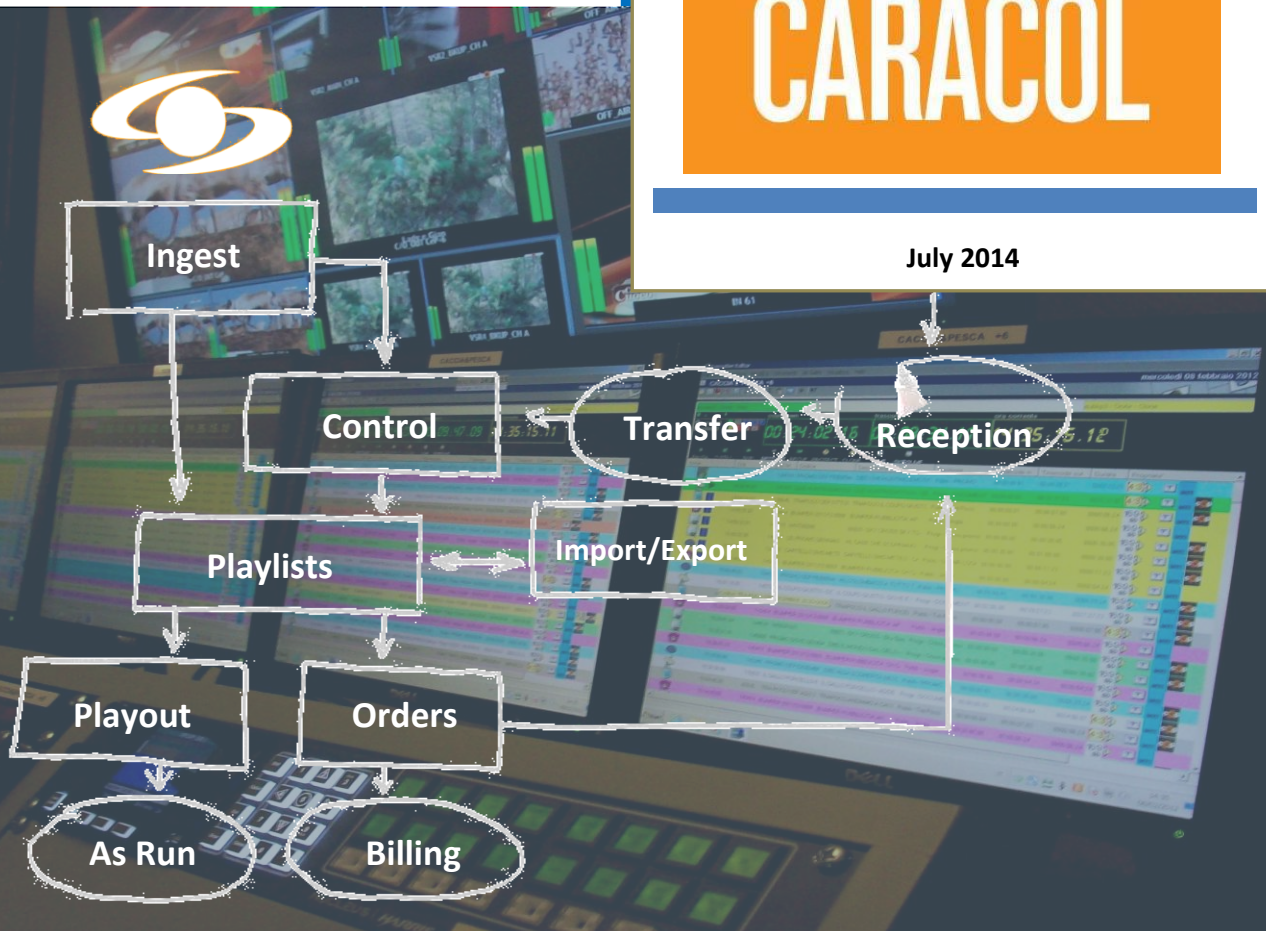


Table of Contents

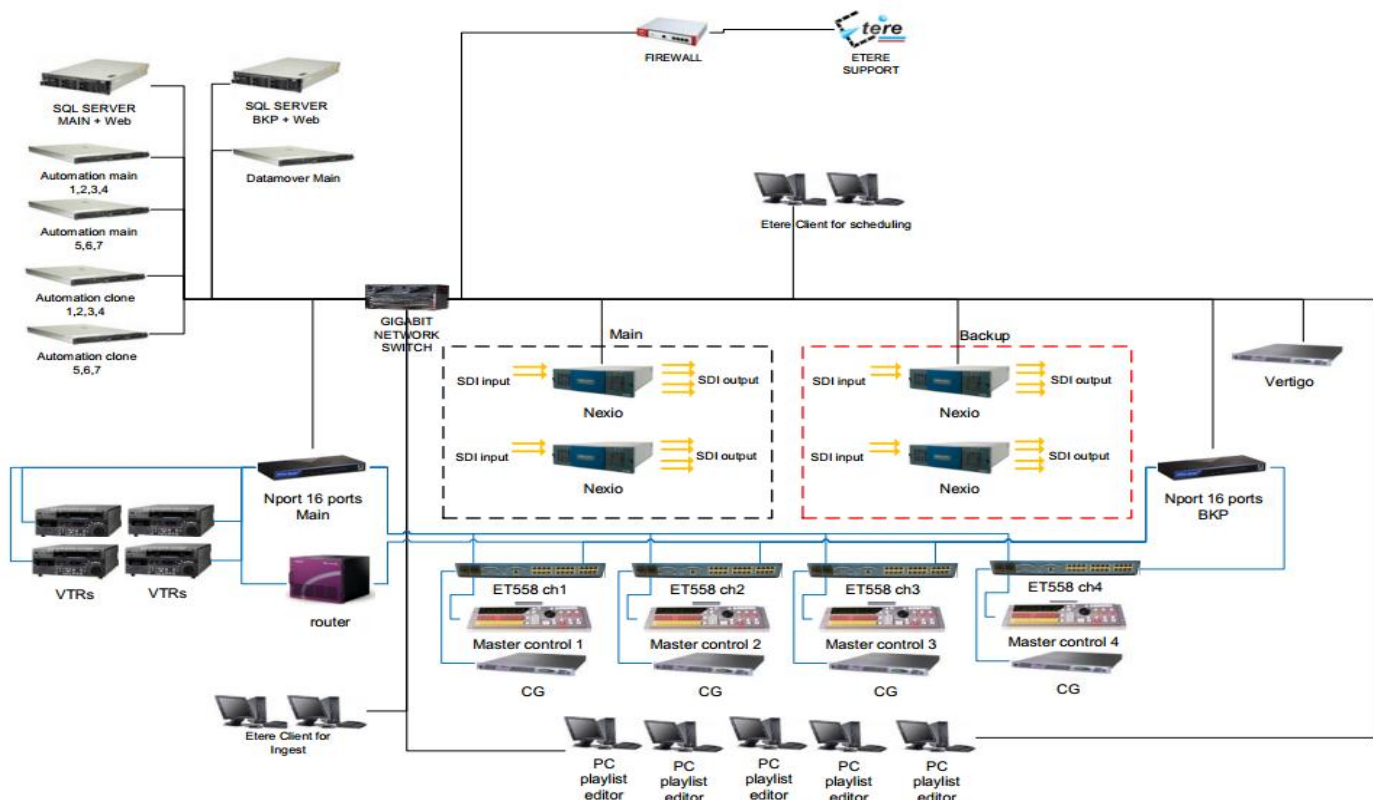
▼ 1. CHALLENGE	3
▼ 2. SOLUTION	4
▼ 3. MODULES.....	5
▼ 3.1. Ingest: A versatile acquisition system	6
▼ 3.2. Automation: Reliable playout system	9
▼ 3.3. DataMover: Intelligent archiving and delivery	14
▼ 3.4. EtereWeb: Web-based asset management	17
▼ 3.5. Scheduling: A complete playlist management.....	27
▼ 3.6. Air Sales: Commercial Traffic Management.....	31
▼ 3.7. Money: Billing and Bookkeeping	34
▼ 3.8. F90: Automated data import/export	36
▼ 3.9. Monitoring Console: A complete SNMP monitoring	37
▼ 4. FUNCTIONALITIES	40
▼ 4.1. Distributed architecture	40
▼ 4.2. Search engine	40
▼ 4.3. Operations history	44
▼ 4.4. Role-based Access Control	47
▼ 4.5. Documents Management.....	49
▼ 4.6. Metadata Cataloguing.....	49
▼ 4.7. Multi-level storage hierarchy	52
▼ 4.8. Multi-version management.....	52
▼ 4.9. Multi-storage management.....	52
▼ 4.10. Workflow management.....	53
▼ 4.11. Look and feel	61
▼ 5. BENEFITS	62

Caracol Televisión is a Colombian private national television network founded on 1954 and owned by the Santo Domingo Group. **Caracol TV** broadcasts news, sports and other entertainment programming such as telenovelas and series in nearly 80 countries throughout five continents.

With fifty years of experience, **Caracol TV** produces 4,000 hours of audiovisual content per year, and has more than 10,000 hours of original programming.

▼ 1. CHALLENGE

In order to consolidate its position as major media company in the international market, of **Caracol TV** has requested **ETERE** provide a **full enterprise wide media asset management system** to streamline the entire station's media management to efficiently acquire, archive, produce, delivery and playout content through multiple channels while keeping the system cost-effective thanks to a file-based framework.



This paper is aimed to describe how the solution proposed by ETERE is able to fulfill all the specifications required by **Caracol TV**, providing detailed information on every module forming part of the overall solution.

▼ 2. SOLUTION

Caracol TV has requested a consistent project for the digital management of media content under a file-based workflow environment. Etere's solution consists of a “**Full Enterprise Wide Media Asset Management System**” with acquisition, management and delivery capabilities of multilingual media. The proposed solution will be relied on a workflow-based framework able to cover the end-to-end archive management including ingest, storage, catalogue, search, retrieval, production and playout.

KEY FEATURES

- **Distributed** architecture managed via **workflow** to avoid any single point of failure
- Enterprise management of digital content under a **file-based** environment
- Seamless **integration** with existing and co-existing systems
- Fast, safe and fully-tracked local/remote **access** to the content archive
- Enterprise management and **transport** of media between storage devices
- On-demand media **transcoding** to always deliver the correct media format
- **Quality control** to ensure the reliability of archived assets over short and long terms
- High **preservation** and high **availability** of archived and catalogued media content
- Browsing features including **preview**, slow-motion, time code, bookmarking and metadata
- Robust **editing functions** including video cut, merge, overlay and restore
- Best flexibility on **digitizing media** content from multiple sources
- Full integration support for **NLE systems** including archive upload/download
- Reliable **monitoring** of the modules and equipment integrated within the global system
- Automated **playout** of content with reliable fault-tolerant capabilities
- Enterprise **commercial** management from proposals to billing

INTEGRATED EQUIPMENT

- x1 Leitch/Harris Nexio (4 channels) video server
- x4 VTR
- x2 Audio/Video router
- x5 Master Control
- x7 Logo Generator
- x1 CG/Title

▼ 3. MODULES

ETERE is an integrated broadcasting solution that implements a modular system formed by a set of modules specifically oriented to cover each complex phase of a broadcasting system, focusing to efficiently carry out specific operations such as ingest, archiving, transferring, browsing, etc.

All these operations are synchronously performed within the same database environment and managed by suitable user-defined workflows that ensure an efficient overall system control; these are some of the main features that make of ETERE a solution that can easily fit any media management workflow. All modules that make part of the Etere's proposed solution will be treated throughout this chapter, explaining their roles in the global distributed and integrated system.

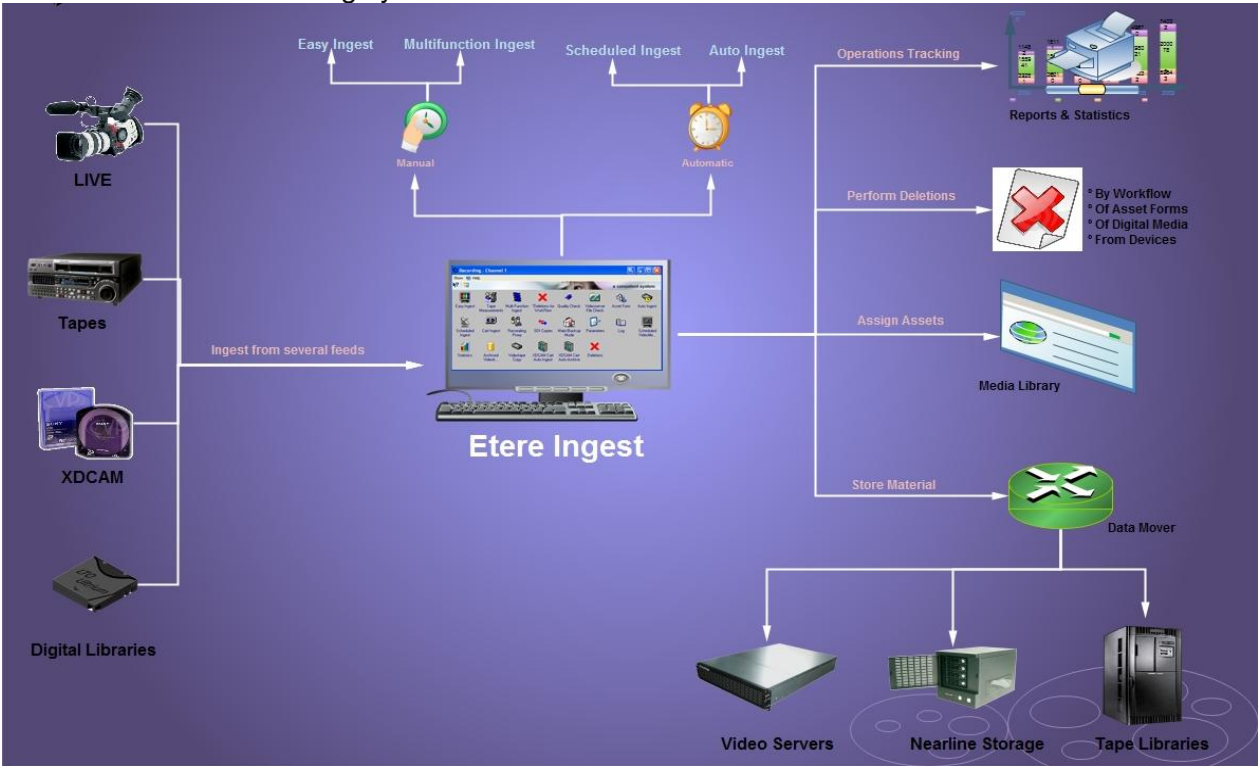
The modules upon which this project is cemented are listed below:

ETERE MODULES

- **Etere Workflow**, automated management of assets and resources
- **Etere Ingest**, flexible media acquisition from a wide range of sources including live feeds
- **Etere DataMover**, intelligent and fast transfers between devices (SAS, NAS, etc.), enabled with EDT protocol
- **Etere Automation**, redundant main/backup playout system supporting real-time device control
- **Etere STMan**, multi-layer and real-time management of secondary objects (e.g. logos, branding, crawls, etc.)
- **Etere Scheduling**, prepare playlists including secondary events, logos and subtitles
- **Etere F90**, automatic execution of import and export functions concerning assets and playlists
- **Etere Air Sales**, automated management of commercial material, from contract creation to planning
- **Etere Money**, financial invoicing, bookkeeping and reporting
- **EtereWeb**, web-based access to view, preview and manage the media library
- **Tapeless Reception**, web portal provided to authenticated users to allow delivering contents

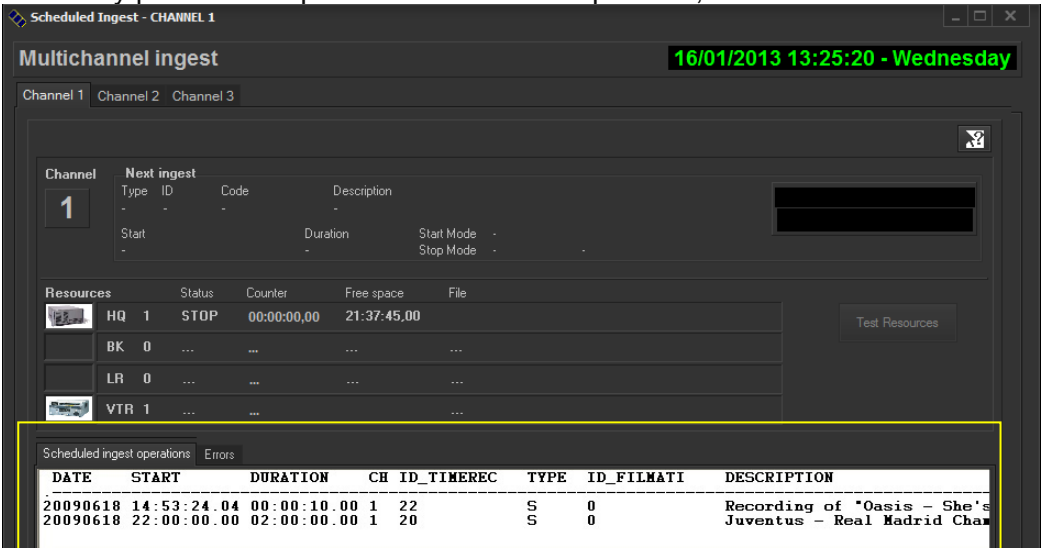
▼ 3.1. Ingest: A versatile acquisition system

Etere Ingest is a versatile set of modular applications that significantly improves the digitization process inside a broadcasting system:

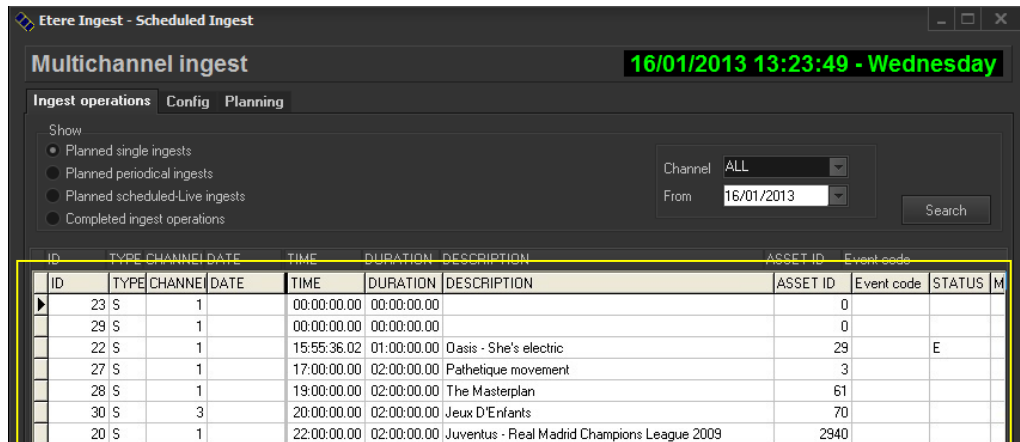


▼ 3.1.1. Wide range of acquisition modes

Ingest covers any particular requirement of the entire process, automatic and scheduled captures:



Automatic ingest



Etere Ingest - Scheduled Ingest

Multichannel ingest 16/01/2013 13:23:49 - Wednesday

Ingest operations Config Planning

Show:

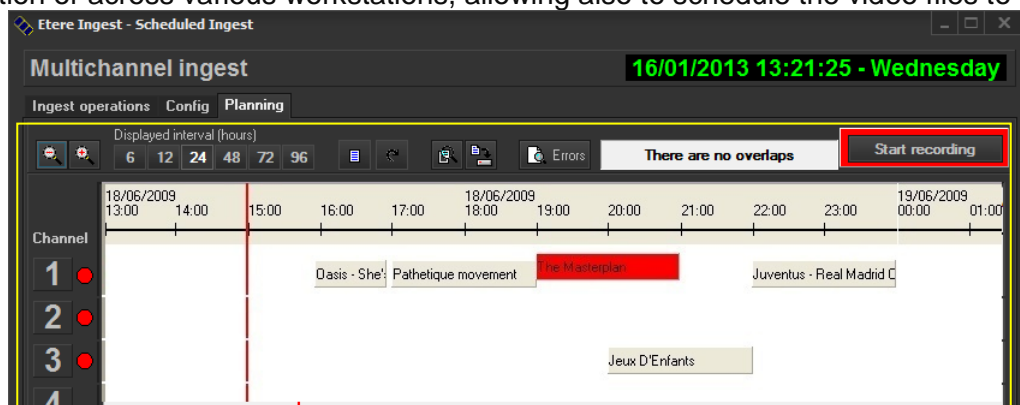
- Planned single ingests
- Planned periodical ingests
- Planned scheduled-Live ingests
- Completed ingest operations

Channel: ALL From: 16/01/2013 Search

ID	TYPE	CHANNEL	DATE	TIME	DURATION	DESCRIPTION	ASSET ID	Event code	STATUS	M
23	S	1		00:00:00.00	00:00:00.00		0			
29	S	1		00:00:00.00	00:00:00.00		0			
22	S	1		15:55:36.02	01:00:00.00	Oasis - She's electric	29	E		
27	S	1		17:00:00.00	02:00:00.00	Pathetique movement	3			
28	S	1		19:00:00.00	02:00:00.00	The Masterplan	61			
30	S	3		20:00:00.00	02:00:00.00	Jeux D'Enfants	70			
20	S	1		22:00:00.00	02:00:00.00	Juventus - Real Madrid Champions League 2009	2940			

Schedule ingest

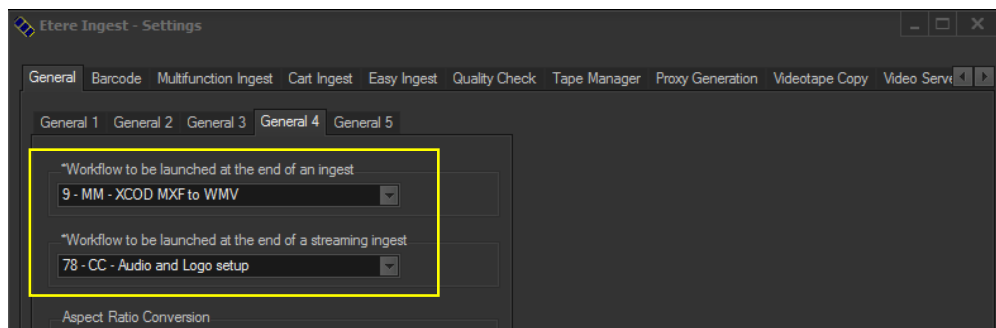
Etere Ingest supports multiple parallel ingest streams, managed automatically either on a single workstation or across various workstations, allowing also to schedule the video files to be ingested:



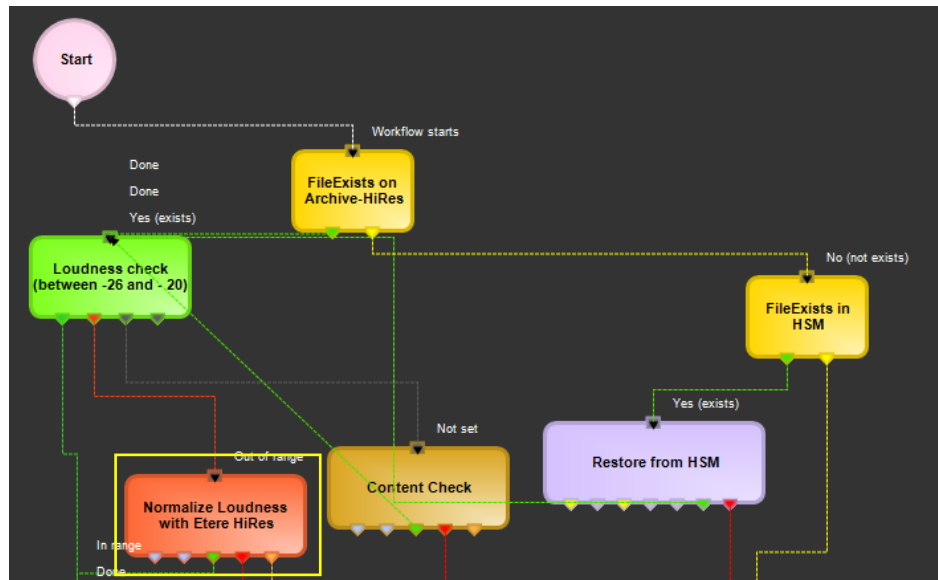
Planning View

▼ 3.1.2. Automatic workflow actions

Once ingested, video files are transcoded into the specific format of the destination device on which they will be stored, in the same way, video files are transcoded each time they are moved from one device to another (e.g.: archiving, playout, etc.):

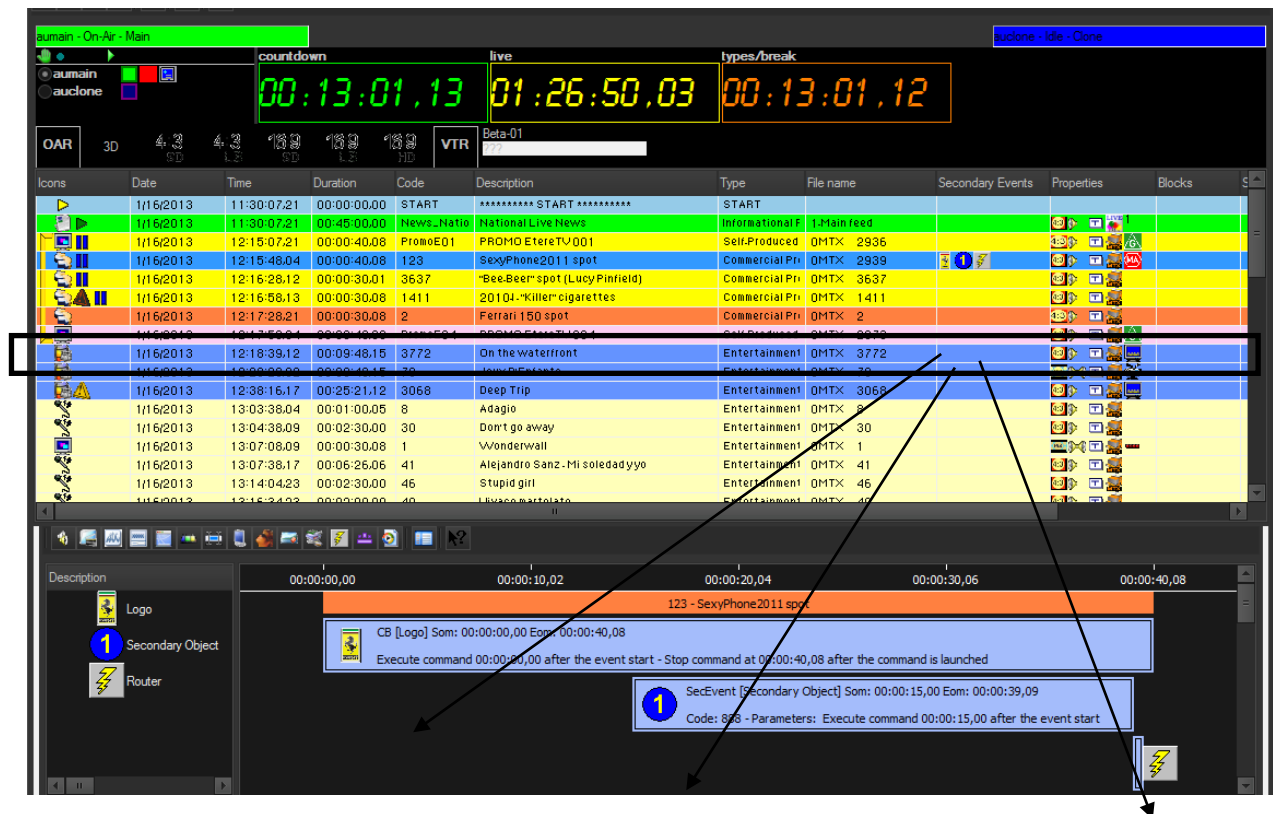


The image below illustrates how Etere allows setting the workflow to be launched at the start and end of an ingest process to for example, create a low resolution version or normalize the audio of captured contents:



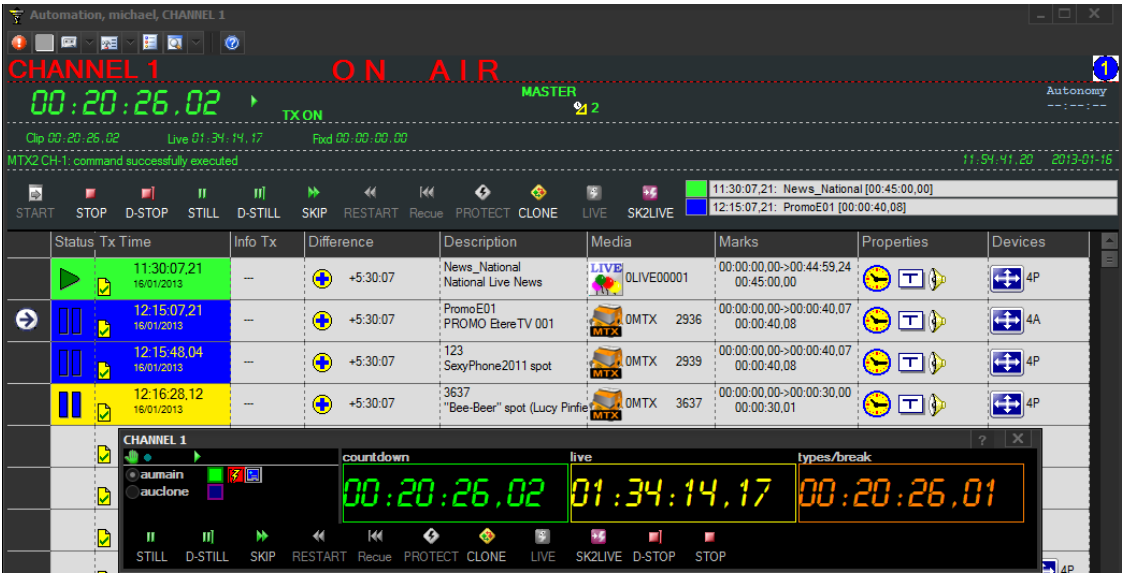
▼ 3.2. Automation: Reliable playout system

Etere Automation is the powerful, reliable and modular playout system able to enhance the station potential in terms of functions and workflow design, it is based on a unique approach which combines in a single product real-time device control and media asset management, offering a powerful mix of solutions and capabilities under a graphical user-friendly interface displaying for each event its source, type, description, properties, live status, secondary events, time code, GPI status, etc.:

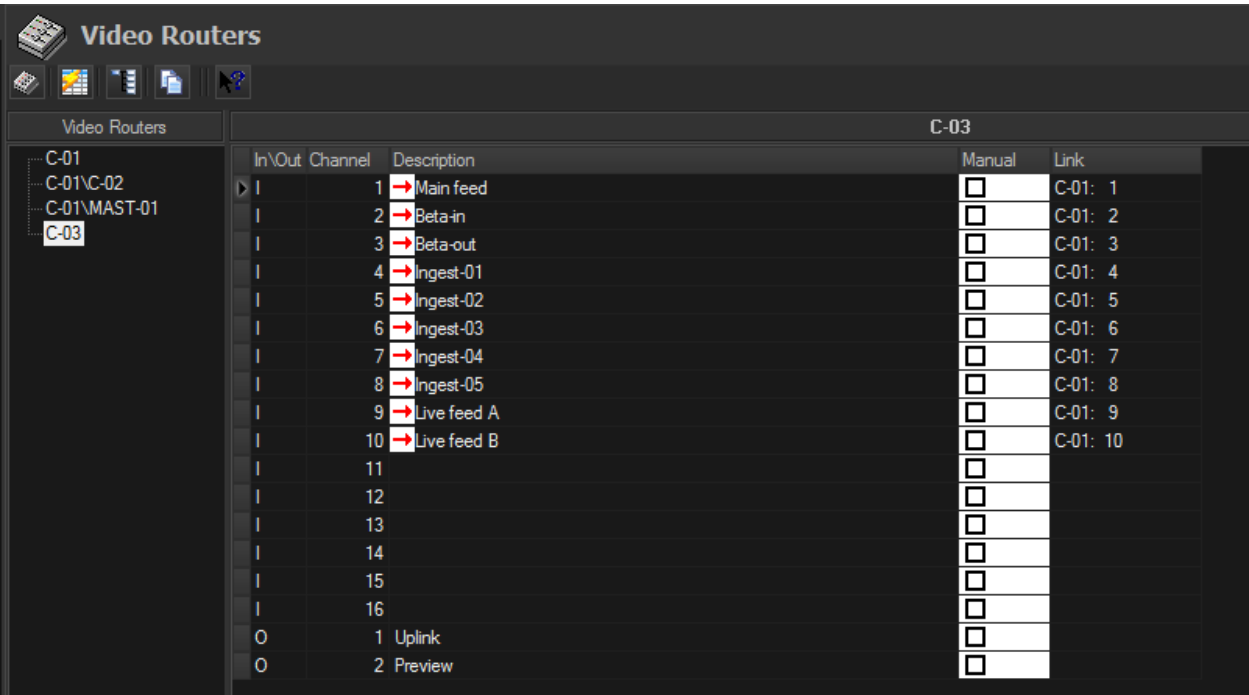


▼ 3.2.1. Live events management

Automation offers complete support for live events present on the daily schedule, being possible to manage various different live inputs that can be switched at any time, few minutes before the event broadcasting or even during its transmission:

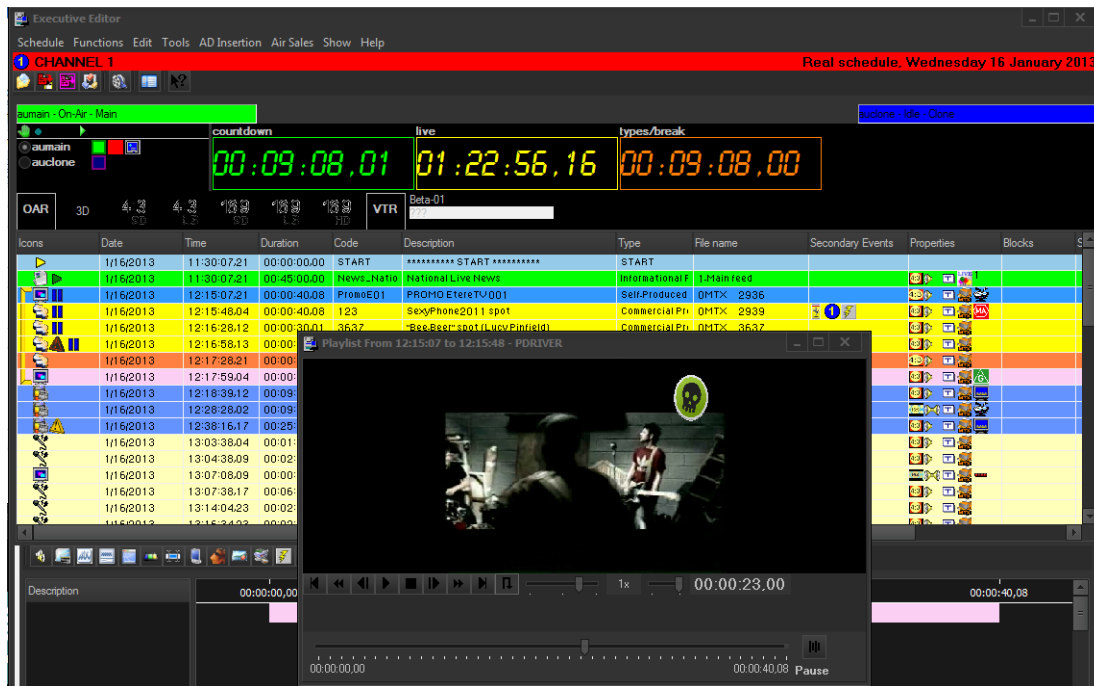


Additionally, Etere allows managing one video router per automation, being possible to create links between routers so when a channel is switched in the Main Router; the equivalent channel is also switched in the Backup Router:



▼ 3.2.2. Secondary events manager

Automation manages all the secondary events intended to be transmitted by dedicated devices (e.g.: Logo Generators, Crawl Generators, Subtitlers, etc.) with a simple graphical tool, allowing previewing secondary events in low res before their playout through a browsing application:



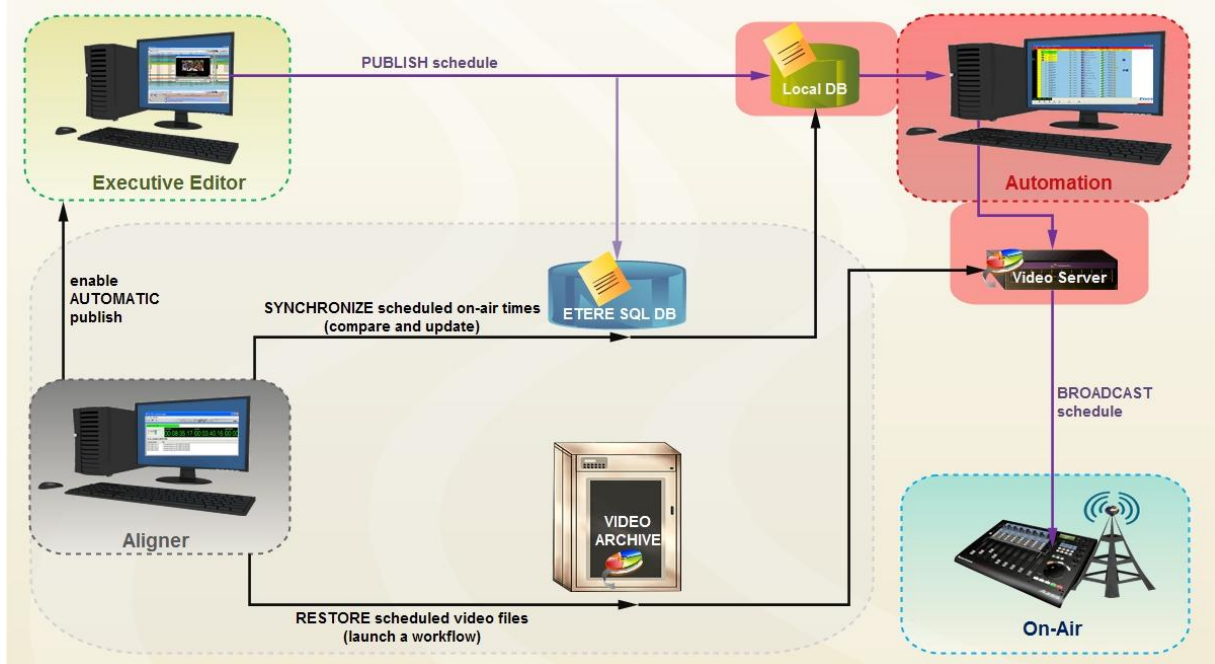
▼ 3.2.3. As-Run Logging

The ability to export As-Run logs containing the schedule “actually” transmitted allows an easy reconciliation between planned and real playout, being possible to send to multiple (UNC and FTP) destinations a frame-accurate log in any of the available formats:

```
[ - ] 04/28 15:09:20.593 | |Log Started
[ APP ] [2010-04-28 15:09:20.21]AUTOMATION RESET
[ APP ] [2010-04-28 15:10:31.05]AUTOMATION IS ONAIR
[ CLIP ] [2010-04-28 15:10:30.17Y, 210136785149, 22 , 0LIVE00000 , Live News , F, 00:00:00.00, 00:59:59.24, 01:00:00.00
[ CLIP ] [2010-04-28 16:10:01.19Y, 210135546001, 28 , 0MCL CBBot , B-Bottles , F, 00:00:00.00, 00:00:08.18, 00:00:08.19
[ CLIP ] [2010-04-28 16:17:03.21Y, 210136107001, 70 , 0MCL JeuxD , Jeux D'E , T, 00:00:00.00, 00:30:00.00, 00:30:00.01
[ CLIP ] [2010-04-28 16:47:08.02Y, 100000008996, 3 , 0MCL PathMov, PathMov , T, 00:00:00.00, 00:08:12.24, 00:08:13.00
[ APP ] [2010-04-28 16:48.13.20]PLAYOUT COMMAND: STILL
[ APP ] [2010-04-28 16:48.14.19]PLAYOUT COMMAND: RESTART_FROM_CURRENT
[ APP ] [2010-04-28 16:48.20.07]PLAYOUT COMMAND: STILL
[ APP ] [2010-04-28 16:48.23.01]PLAYOUT COMMAND: RESTART_FROM_NEXT
[ CLIP ] [2010-04-28 16:48:23.01Y, 100000008998, 32 , 0MCL Minuet , Minuet , T, 00:00:00.00, 00:11:10.24, 00:11:11.00
[ CLIP ] [2010-04-28 16:52:12.06Y, 100000009000, 33 , 0MCL Prima , Primavera , T, 00:00:00.00, 00:09:19.24, 00:09:20.00
[ CLIP ] [2010-04-28 16:54:13.12Y, 100000009003, 49 , 0MCL Vivace , Vivace , T, 00:00:00.00, 00:04:59.24, 00:05:00.00
[ APP ] [2010-04-28 16:55:16.11Y, 100000009005, 51 , 0MCL OdeJ , Ode Joy , T, 00:00:00.00, 00:04:59.24, 00:05:00.00
[ CLIP ] [2010-04-28 16:57:46.19Y, 100000018164, 12 , 0LIVE00001 , Melody01 , T, 00:00:00.00, 00:00:14.24, 00:00:14.15
[ APP ] [2010-04-28 16:59:53.01]PLAYOUT COMMAND: EMERGENCY_LIVE_START
[ APP ] [2010-04-28 17:05:57.05]PLAYOUT COMMAND: EMERGENCY_LIVE_END
[ APP ] [2010-04-28 17:15:35.06]AUTOMATION STOP
Log Closed
```

▼ 3.2.4. Synchronized broadcast

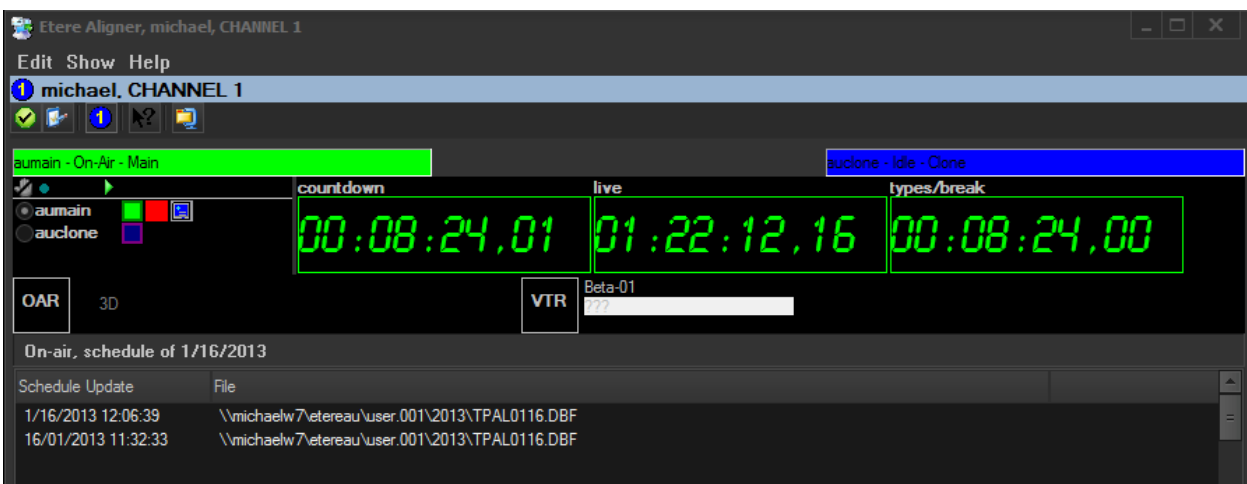
Aligner is the application that maintains the published schedule constantly synchronized, it aligns the independent automation schedule with the Etere stored schedule, this operation is very important for the broadcast process since published on-air timings may vary and will need to be updated:



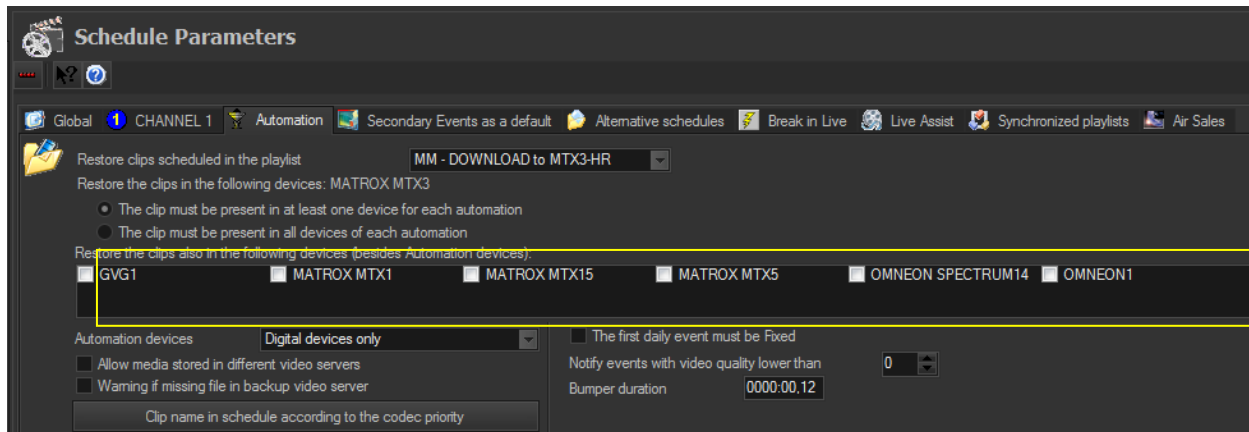
Etere Aligner provides stations with the following key features on managing broadcast schedules:

- Automatic publishing of the schedule by Executive Editor,
- Ensure consistency of the published schedule by updating it with last changes,
- Launch workflows automatically to restore video clips scheduled to go on-air.

In the Parameters it's possible to specify that the system also carries out publication of the schedule at each **Etere F90** request.

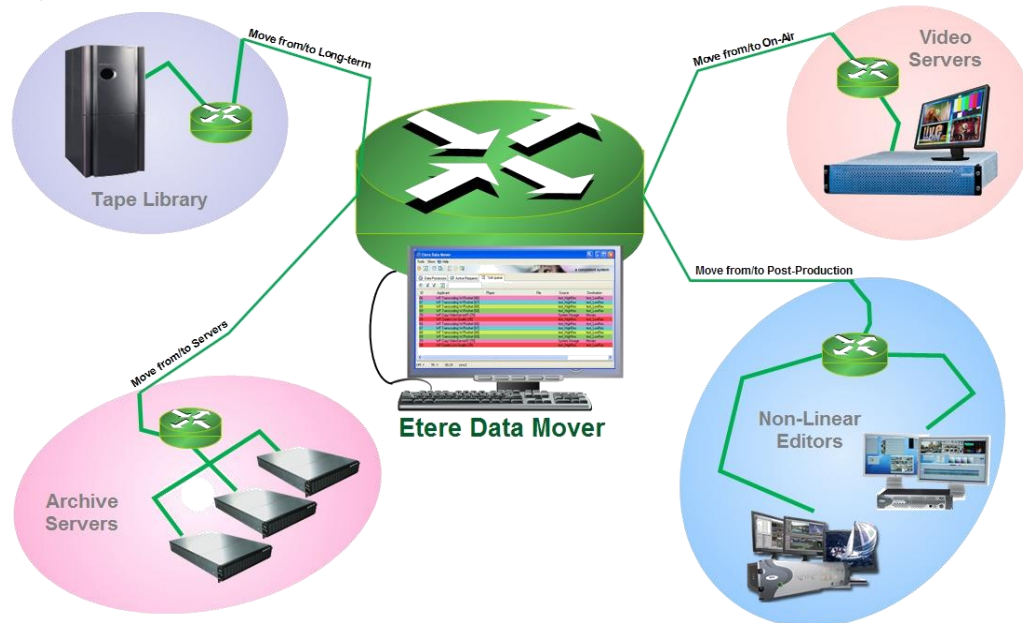


Moreover, **Etere Aligner** allows restoring via workflow all those video files associated to scheduled events and which are missing in the remote archive, either manually or automatically:



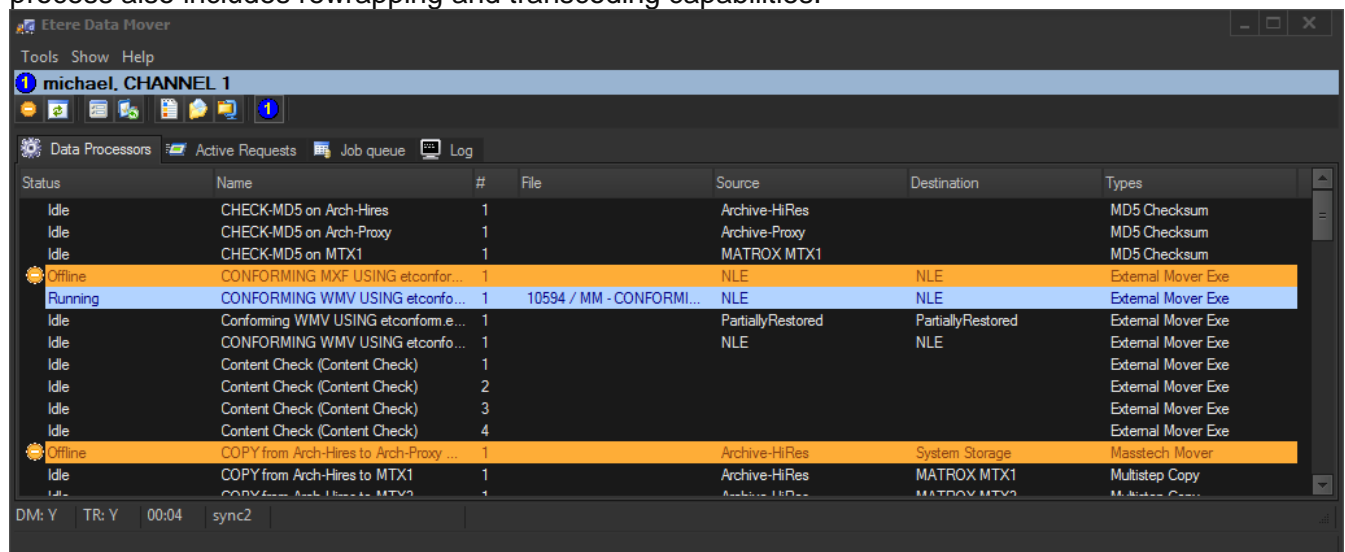
▼ 3.3. DataMover: Intelligent archiving and delivery

Etere Data Mover is a solution proposed to encompass station's content transfer and archiving goes beyond of a simple copy concept by moving video files based on custom policies, transcoding video files when required and offering a full track of all operations.



▼ 3.3.1. Simple and user-friendly interface

Video contents will be transferred between the various departments (e.g.: near-line storage, archive, post-production, playout, browsing, and even non-Etere systems) by **Etere DataMover**; this migration process also includes rewrapping and transcoding capabilities.



▼ 3.3.2. Logical management of data

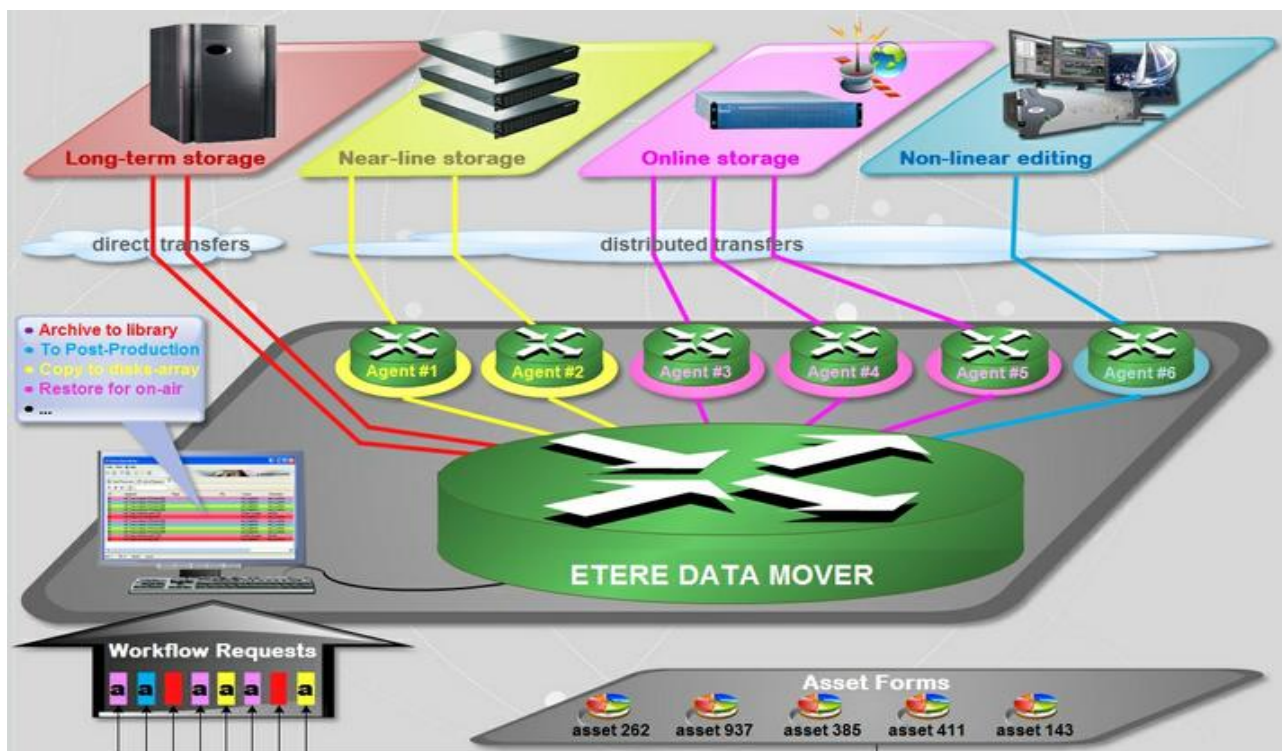
Etere's approach is oriented to "virtualize" the entire media management process, improving it with flexibility, customization and most important cost-effectiveness. Etere manages (logical) metadevices instead of (physical) devices, this approach results in a wide range of possibilities for the media management, for example, it is possible to control with one click the available space of all metadevices:

Device name	Total	Available	Free space	Notes
NLE-100	1.34 Tb	1.04 Tb	78%	2 volume(s)
NLE-220	686.50 Gb	535.78 Gb	78%	1 volume(s)
NLE-350	2.01 Tb	1.56 Tb	78%	3 volume(s)
OmneonLR			0%	1 of 1 volumes are unavailable
P2 Storage Server	4.69 Tb	3.66 Tb	78%	7 volume(s)
VS-MTX1	Not available	0.00 b	0%	
VS-MTX3	465.75 Gb	203.47 Gb	43%	

Data Mover is the application used to perform the physical storage and retrieval of video files, a typical Data Mover operation would be to move a video clip from a video server to an archive based on custom actions which are defined and executed via workflow.

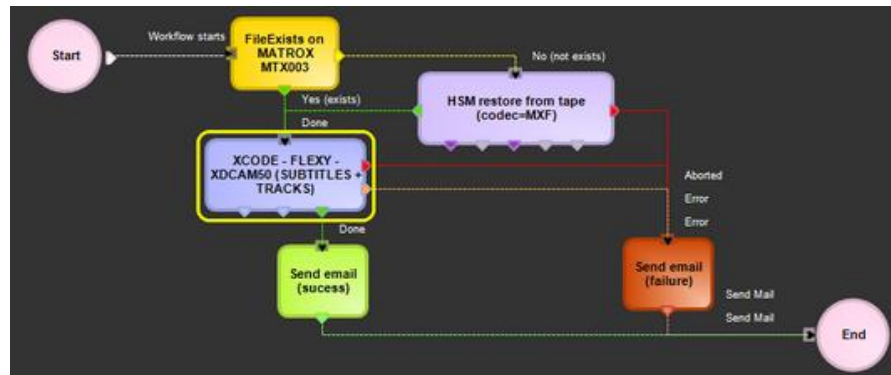
▼ 3.3.3. Distributed parallel jobs

Data Mover is capable to provide both, distributed processing for using an independent agent per data transfer and parallel processing for simultaneously performing different instances of one data transfer; these features will allow stations to exploit high computing resources to use a single workstation to perform multiple transfers, thus enhancing the flexibility, scalability and fault-tolerance of the entire Etere system.

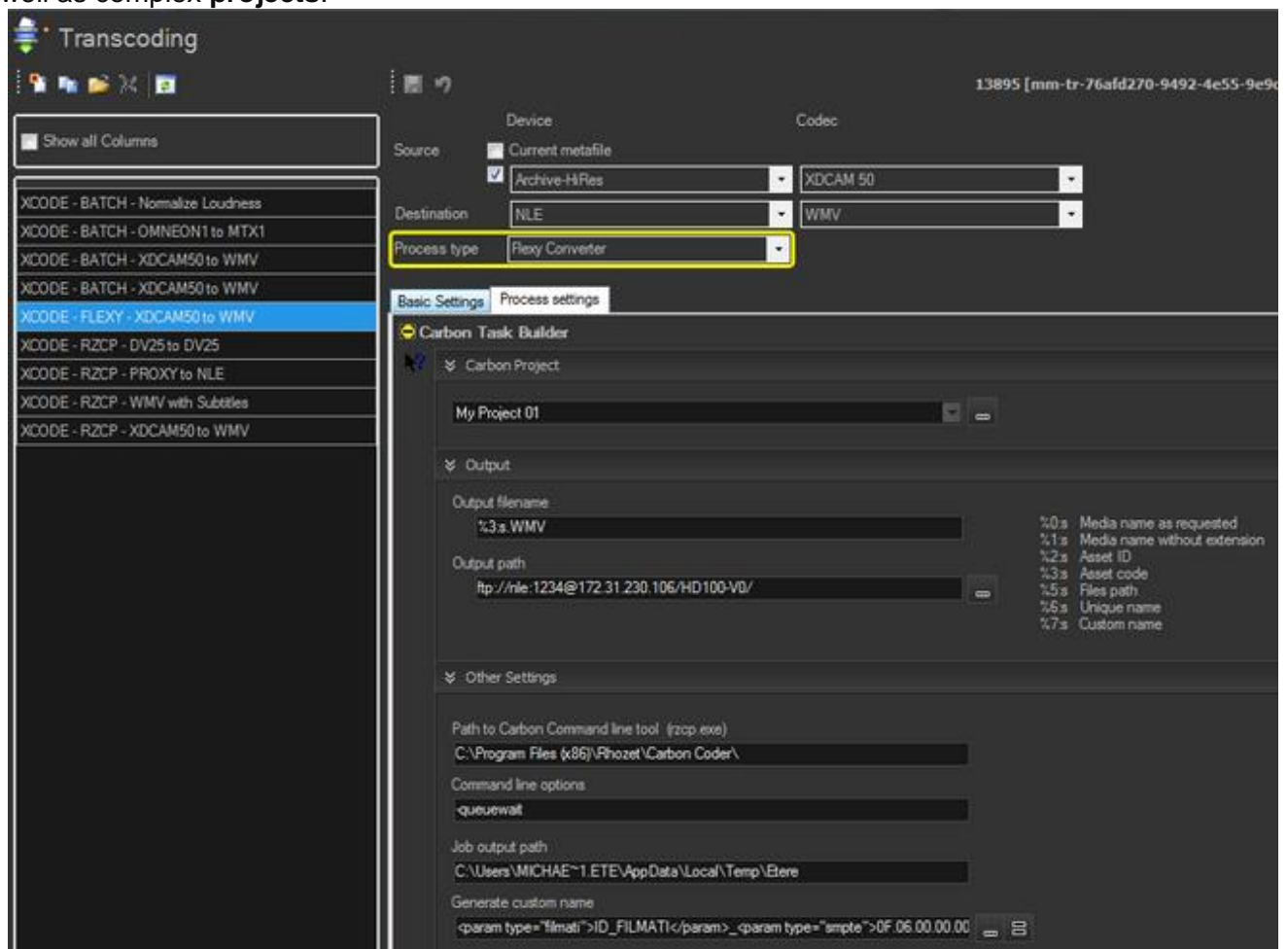


▼ 3.3.4. Integrated transcoding

Etere's integration with **Carbon Coder** software handles a wide array of critical operations including format conversions that ensures content to be always stored in the right place in the right format:

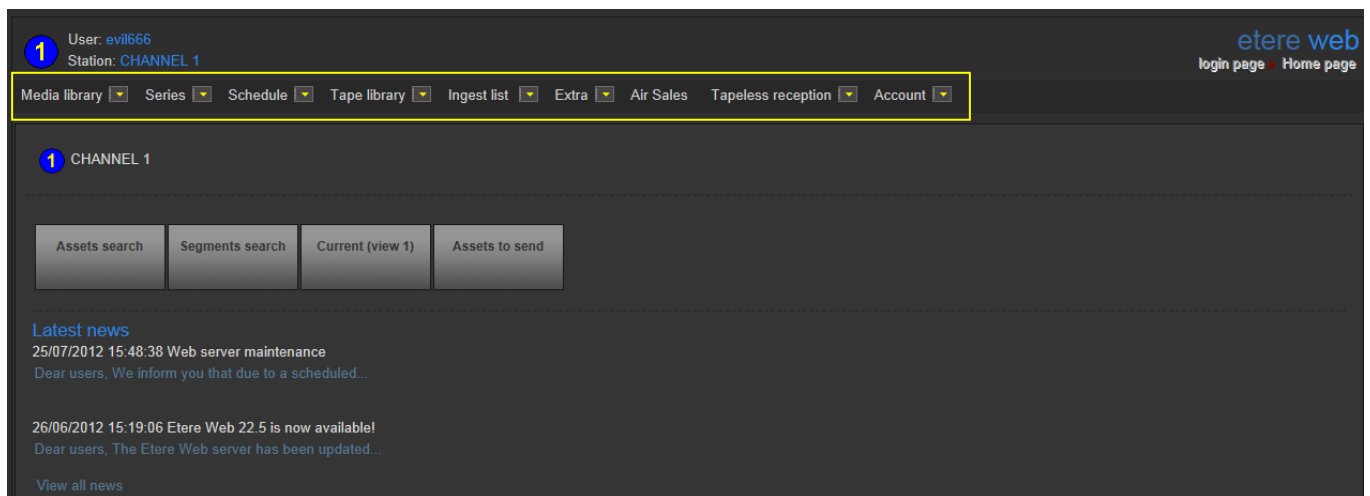


Etere provides multiple ways to use Carbon Coder within workflows, you can use Carbon **presets** as well as complex **projects**:



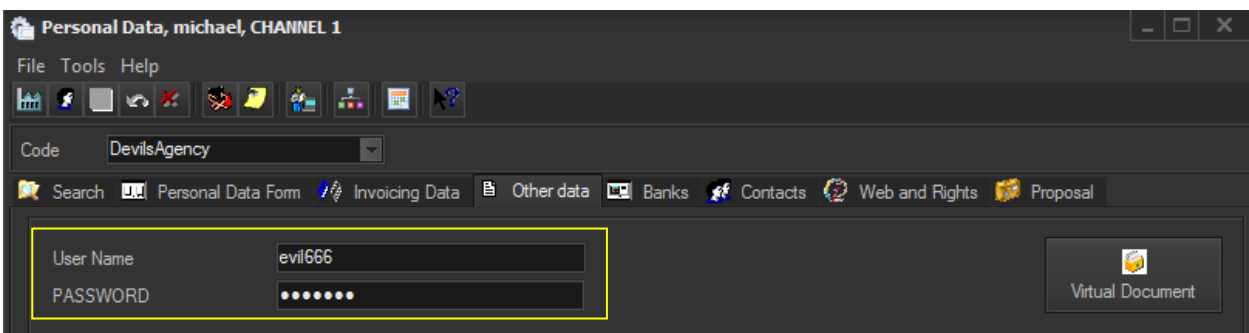
▼ 3.4. EtereWeb: Web-based asset management

EtereWeb is a web service that supports all major browsers including Microsoft Internet Explorer, Mozilla Firefox and Apple Safari; thus ensuring the reliability and quality of the service. EtereWeb integrates the latest streaming technologies for video distribution and a comprehensive rights management system that gives to authorized users the possibility to access via web to a user-friendly interface:



▼ 3.4.1. Authenticated access and rights

In order to ensure that only authorized persons access the web service, EtereWeb counts with an encrypted authentication method on which users must count with a username and password in order to enter the web portal:



▼ 3.4.2. Tapeless reception

Tapeless Reception is an extension of **EtereWeb** designed with the purpose of offering an efficient solution for **digital content delivery** between external agencies and stations, it integrates the latest streaming technologies for video distribution and a comprehensive rights management system that gives to authorized users the possibility to access via web to a user-friendly interface:

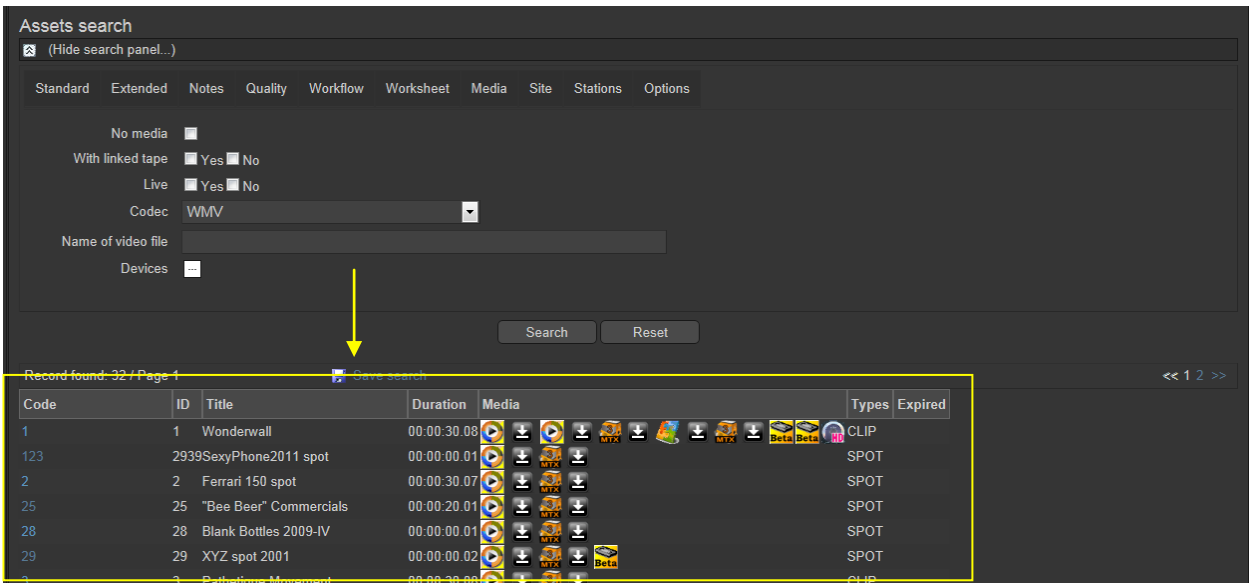
Sent Assets			
(Hide search panel...)			
Code			
Title			
Date			
Search		Reset	
Code	Description	Scheduled arrival	
28	Blank Bottles 2009-IV	01/09/2010	Select
PromoE02	PROMO EtereTV 002	30/04/2010	Select
3082	"Bee Beer" 2012 (1st-quarter)	19/01/2010	Select
ADV-0001	New Collection "EMO CLOTHES" 2010-I	31/12/2009	Select
3065	Testing Advertising Commercial 01	31/12/2009	Select
PromoE03	PROMO EtereTV 003	01/12/2009	Select
41	Alejandro Sanz - Mi soledad y yo	20/11/2009	Select
55	Cuenta la historia	20/11/2009	Select
VirtualAsset01	Wonderwall	04/08/2009	Select

Etere provides **Tapeless Reception** to allow remote clients to deliver digital content into the library, this web portal will permit other station's areas (e.g. Post-production houses, NLE systems, News providers, MAM systems) to easily and safely **upload content** (e.g. dubbed audio, conformed video, subtitles, etc.) and related metadata into a web server; once content is delivered (i.e. uploaded), a post-upload workflow (e.g. nearline archiving) is automatically triggered and a confirmation email is sent to the deliverer (attaching a proxy video) and the station operator.

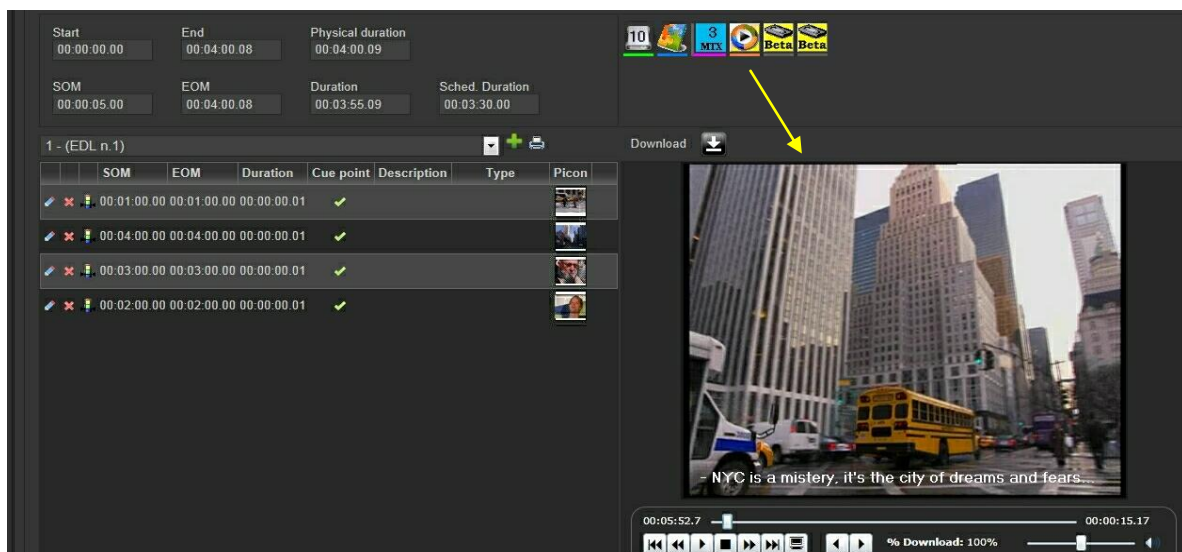
Additionally, a customizable security policy will allow the station to determine different levels for accessing the files delivered through the web portal, thus making possible, for example, to dictate that a certain web user (e.g. NLE system) will be allowed to retrieve only its own delivered files whereas another web user (e.g. MAM system) to retrieve its own delivered files and also other user's files.

▼ 3.4.3. Search, retrieval and preview

The Quick and robust search engine of **EtereWeb** allows users to easily search and preview assets, even during the search:



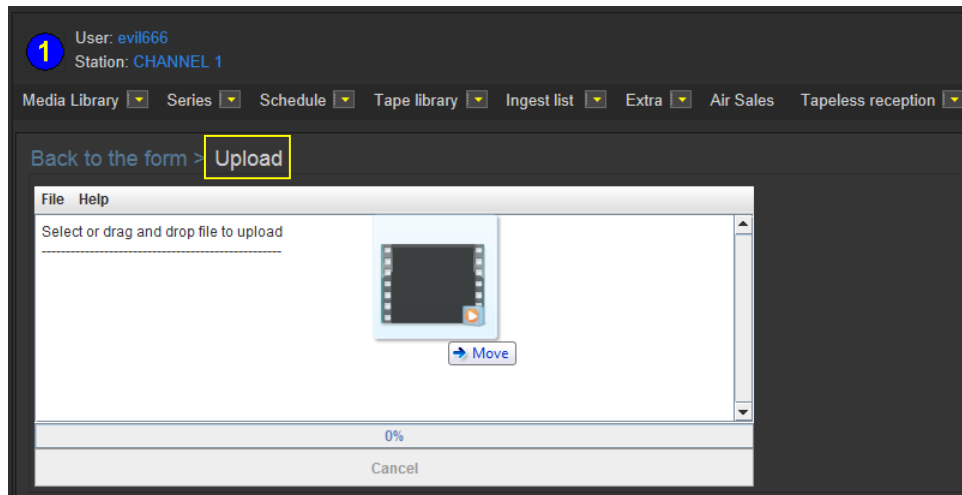
The Media tab holds information regarding the media associated to the asset, time code details and EDL configuration. By double clicking on any media item, if available, it will be available the preview and download of the asset:



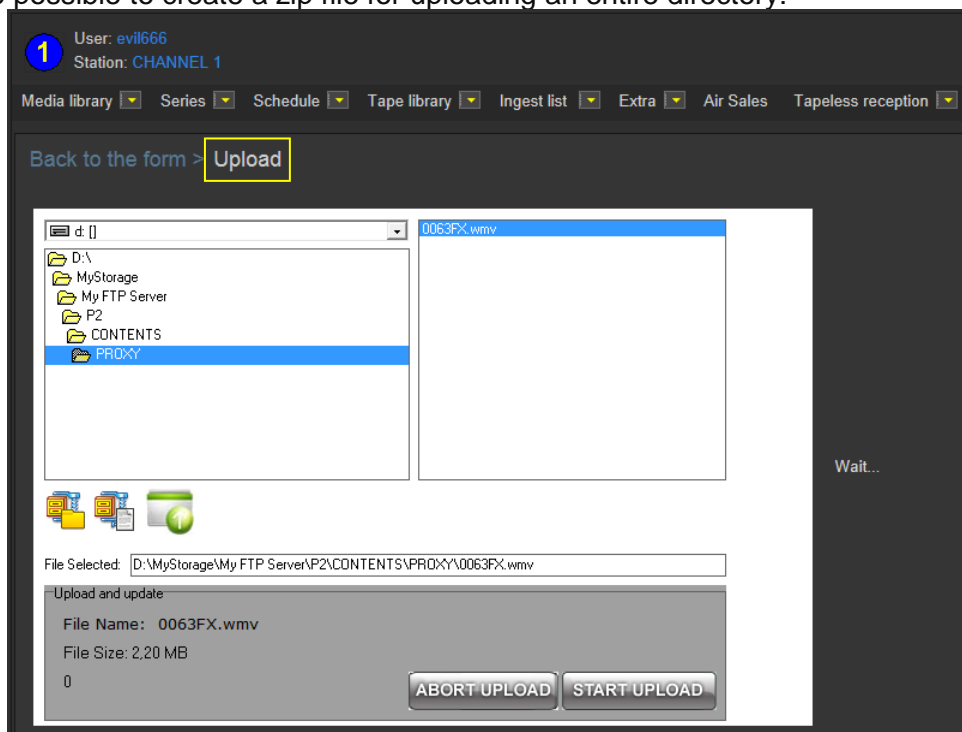
▼ 3.4.4. Selective upload interface

EtereWeb allows uploading media files into the server through a simple and intuitive wizard procedure. Depending on the upload interface set in the system, it will be possible to upload the media file using either a java-applet or an active-x interface:

- **Java-Applet:** This interface allows dragging and dropping the media file(s) to be uploaded from the file explorer into the web browser:



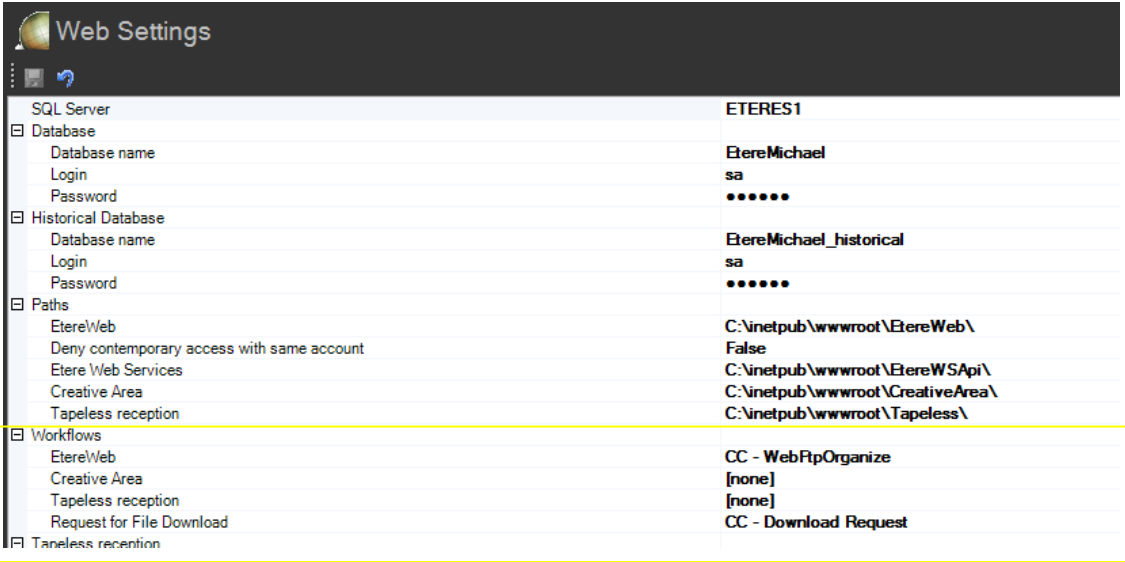
- **Active-X control:** This interface allows browsing for the media file(s) to be uploaded, being also possible to create a zip file for uploading an entire directory:



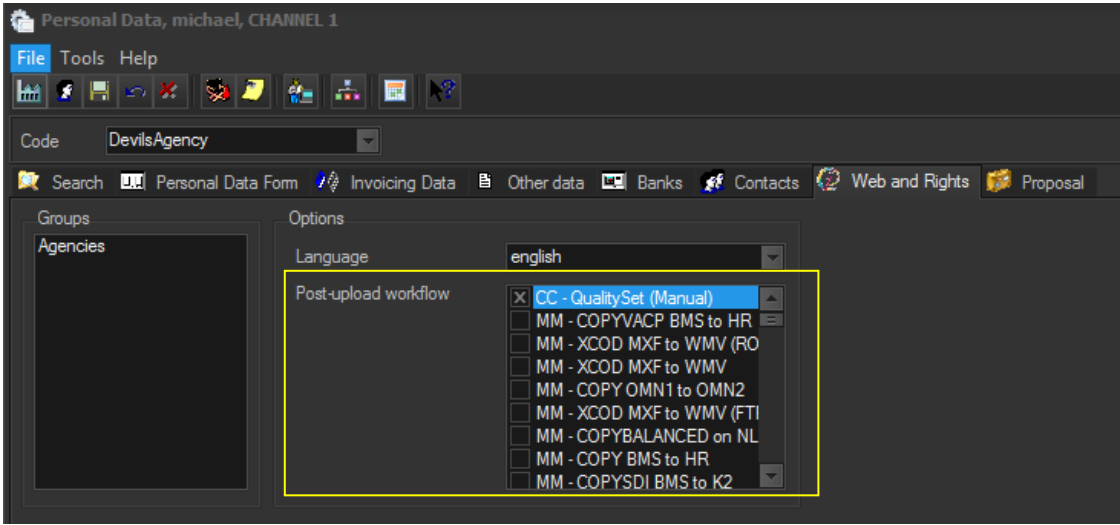
▼ 3.4.5. Pre/Post upload processing

EtereWeb allows setting different workflows to be launched at different stages of the web management, for example, it is possible to configure the following workflows:

- **Pre-upload workflow:**

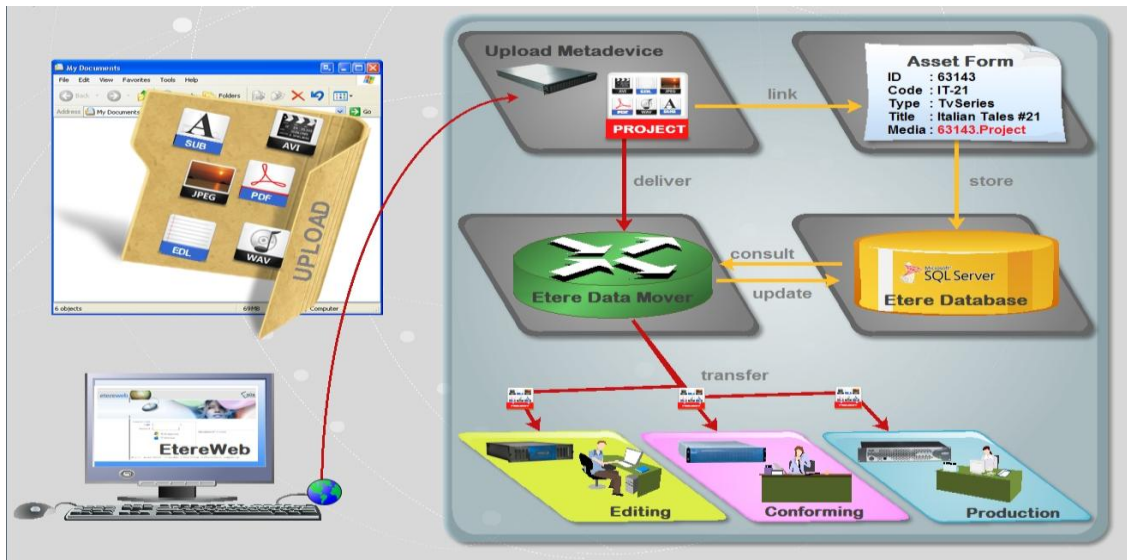


• Post-upload workflows:



▼ 3.4.6. Multi-file upload support

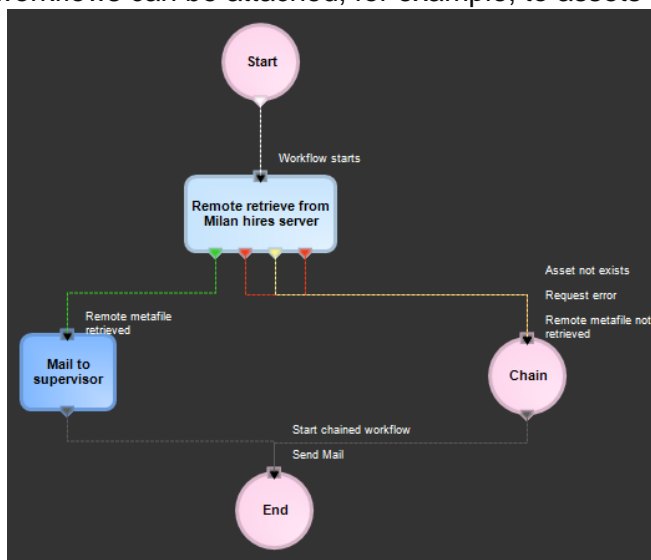
EtereWeb supports not only uploading multiple files with a simple drag and drop action, but also manage them as a single metafile:



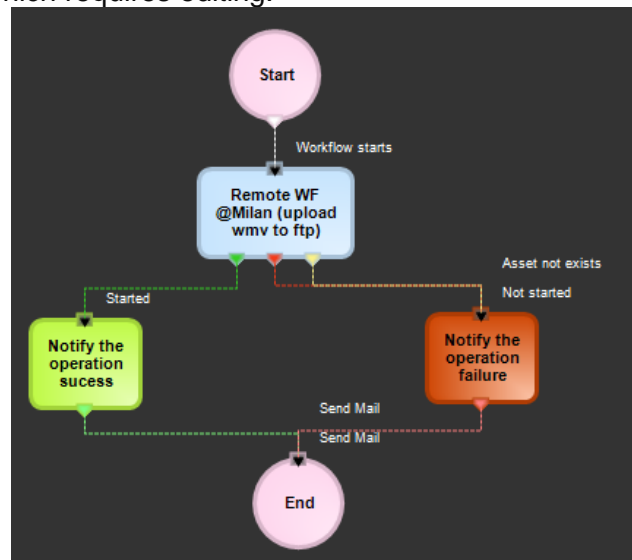
This feature allows NLE systems to, for example, upload into the station's server all the files which make part of a project (e.g. production of promos, conforming of separate scenes, editing of source material, etc.) and deliver them to the related department with a single click and with the reliability of a workflow management.

▼ 3.4.7. Workflow integration with NLE systems

Thanks to the file-based approach of its media management, EtereWeb supports interfacing centralized NLE systems (Avid Transfer manager, Final cut pro server) via workflow. With Etere, it will be possible to transfer video files from and to NLE systems automatically via workflow, these workflows can be attached, for example, to assets which requires editing:



(remote retrieve from a federated system)

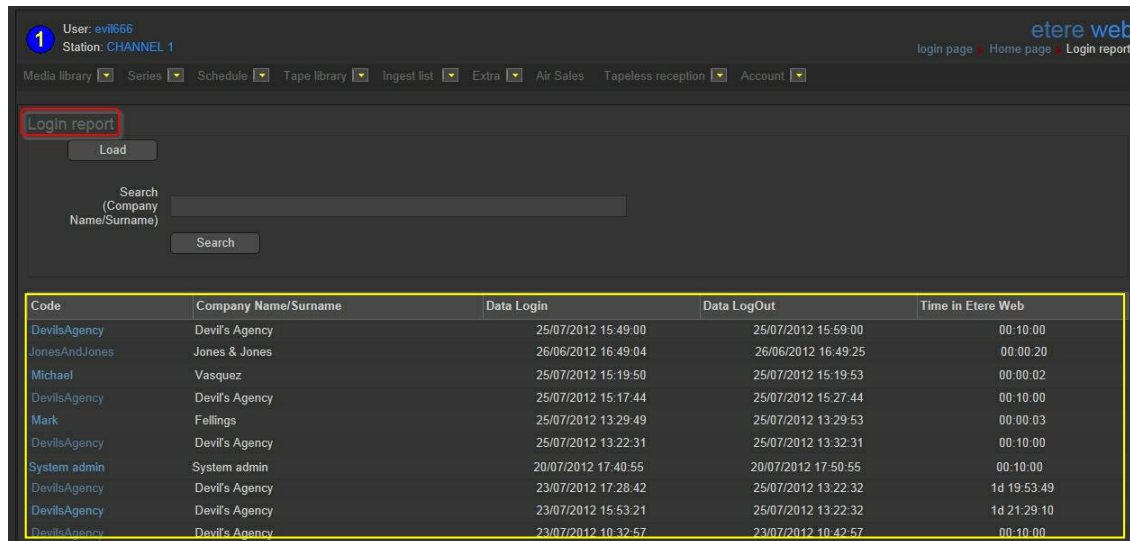


(remote upload to ftp)

▼ 3.4.8. Centralized monitoring interface

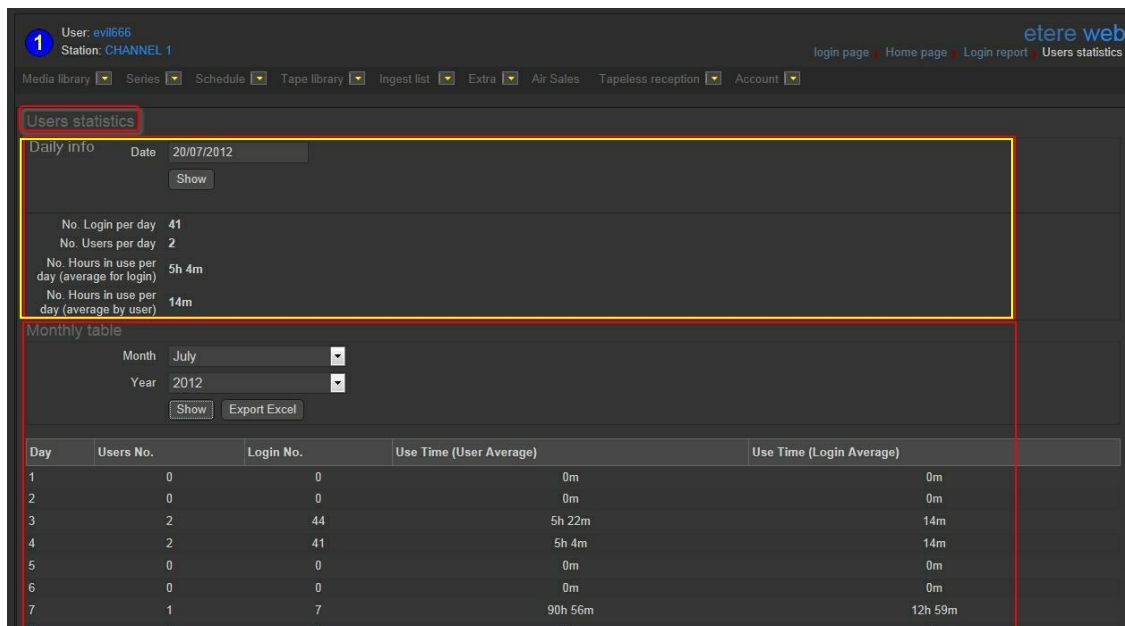
EtereWeb provides administrators with two key sections from which they will be able to consult:

- **Login Report** : Detailed information about user-specific accesses:



Code	Company Name/Surname	Data Login	Data LogOut	Time in Etere Web
Devil'sAgency	Devil's Agency	25/07/2012 15:49:00	25/07/2012 15:59:00	00:10:00
JonesAndJones	Jones & Jones	26/06/2012 16:49:04	26/06/2012 16:49:25	00:00:20
Michael	Vasquez	25/07/2012 15:19:50	25/07/2012 15:19:53	00:00:02
Devil'sAgency	Devil's Agency	25/07/2012 15:17:44	25/07/2012 15:27:44	00:10:00
Mark	Fellings	25/07/2012 13:29:49	25/07/2012 13:29:53	00:00:03
Devil'sAgency	Devil's Agency	25/07/2012 13:22:31	25/07/2012 13:32:31	00:10:00
System admin	System admin	20/07/2012 17:40:55	20/07/2012 17:50:55	00:10:00
Devil'sAgency	Devil's Agency	23/07/2012 17:28:42	25/07/2012 13:22:32	1d 19:53:49
Devil'sAgency	Devil's Agency	23/07/2012 15:53:21	25/07/2012 13:22:32	1d 21:29:10
Devil'sAgency	Devil's Agency	23/07/2012 10:32:57	23/07/2012 10:42:57	00:10:00

- **User Statistics** : Overall information about daily and weekly accesses:

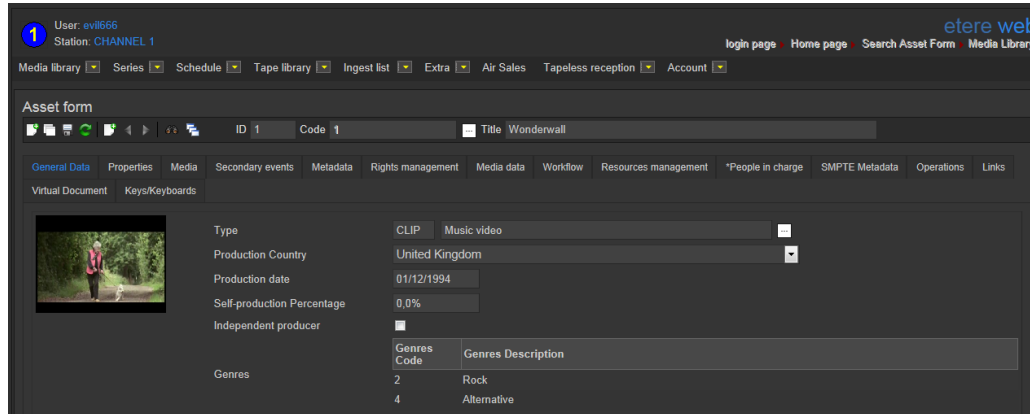


Day	Users No.	Login No.	Use Time (User Average)	Use Time (Login Average)
1	0	0	0m	0m
2	0	0	0m	0m
3	2	44	5h 22m	14m
4	2	41	5h 4m	14m
5	0	0	0m	0m
6	0	0	0m	0m
7	1	7	90h 56m	12h 59m

▼ 3.4.9. Remote archive consultation

EtereWeb allows web users to check and also control the digital archive remotely via web. Web users will be provided with a fully-tracked access to the most relevant Asset Management operations

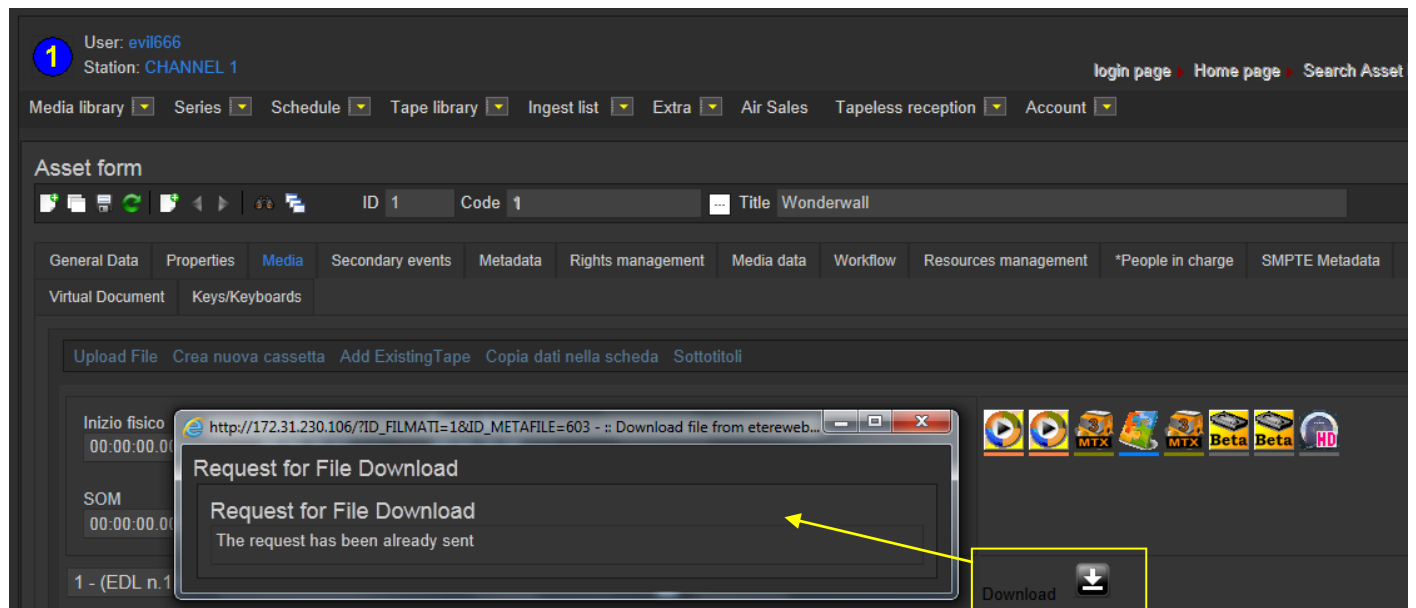
through a robust search engine and including a wide set of function-specific sections (i.e. general information, media, properties, metadata, rights, technical data, workflows and much more).



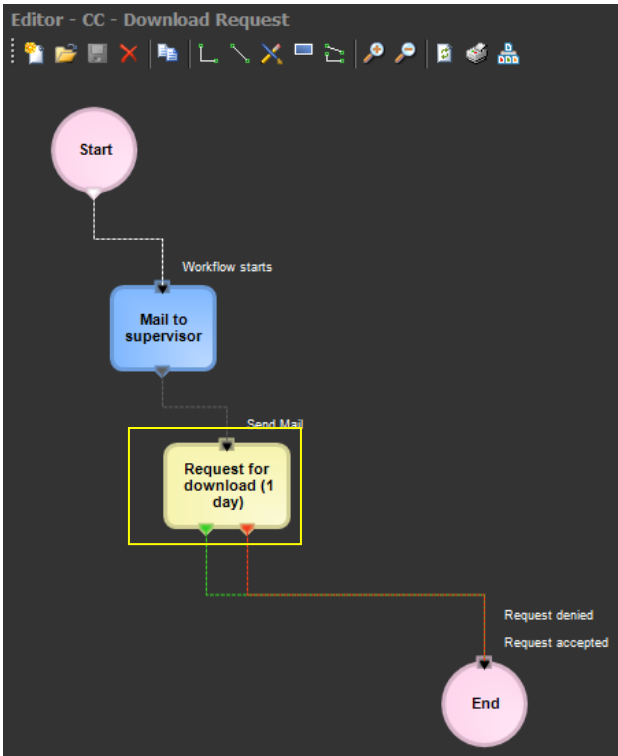
Specially, a section dedicated to the media management will provide information regarding all media files associated to the asset, indicating for all of them the timecode details and EDL configuration with further preview/cut/download/upload capabilities.

▼ 3.4.10. User Permissions

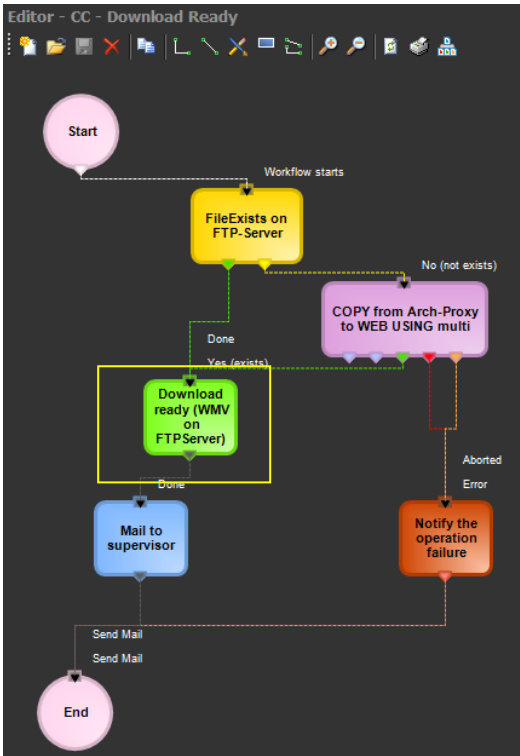
EtereWeb allow stations not only to share the right files to the right persons but it also allows sharing contents with the right permission levels; this capability is based on granting/denying function-specific permissions through Etere Worksheets, the module that allows web users to request temporary permission for specific functions (e.g. download a file linked to a certain asset):



Web requests are managed via workflow to allow a custom and automatic launch of worksheets:

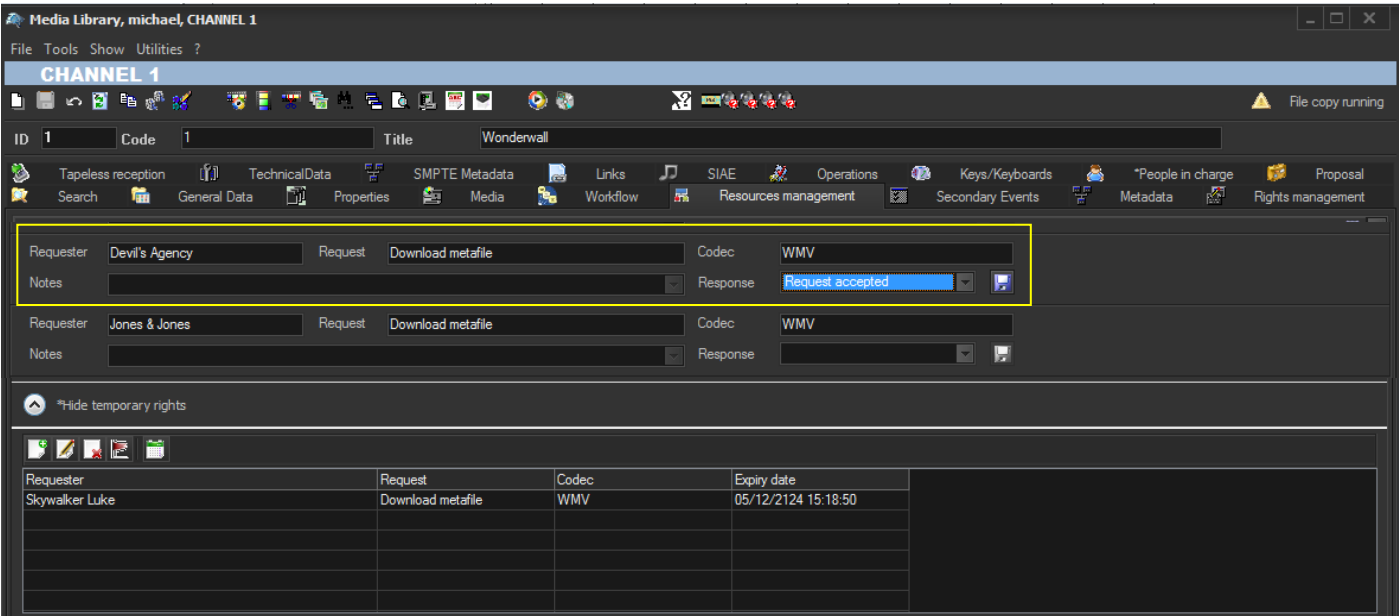


(download request)



(download ready)

Supervisors count with a dedicated interface for viewing pending requests and accept/deny them:

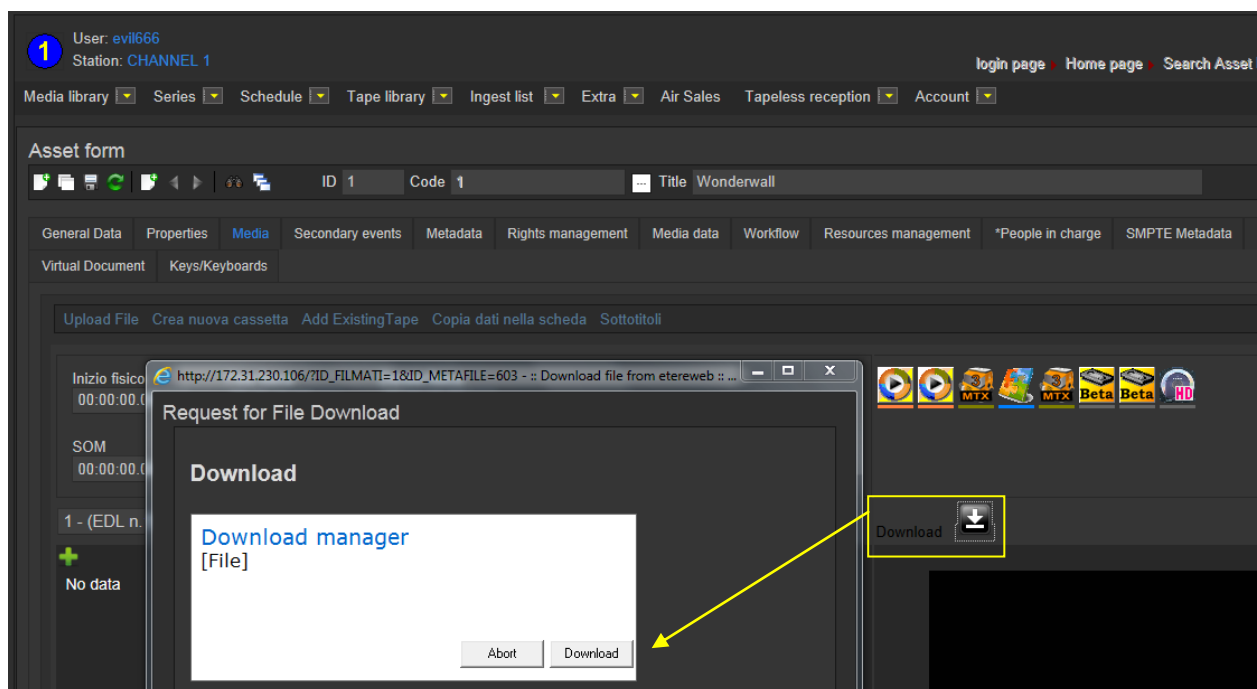


Once the requested is evaluated, web-users will automatically receive an email notification containing the information (e.g. ID, codec, fixed note and an evaluation note) about the asset for which the

request has been performed. The email notification will be sent to the email specified in the personal data of the web-user who performed the request, this, depending on the entity type:

From:	supervisor@mytv.com [system-profile email account]
To:	user5@agencies.com [personal-data email account]
Subject:	WORKFLOW INFO -----(workflow status report)----- Personal data ID : 7 [personal-data code] workflow: CC - Download for NLE [workflow holding the web request action] status: Workflow active result: 0 message: <empty>

Finally, in case the request is accepted, the web-user will be now allowed to download the requested file(s) through EtereWeb:



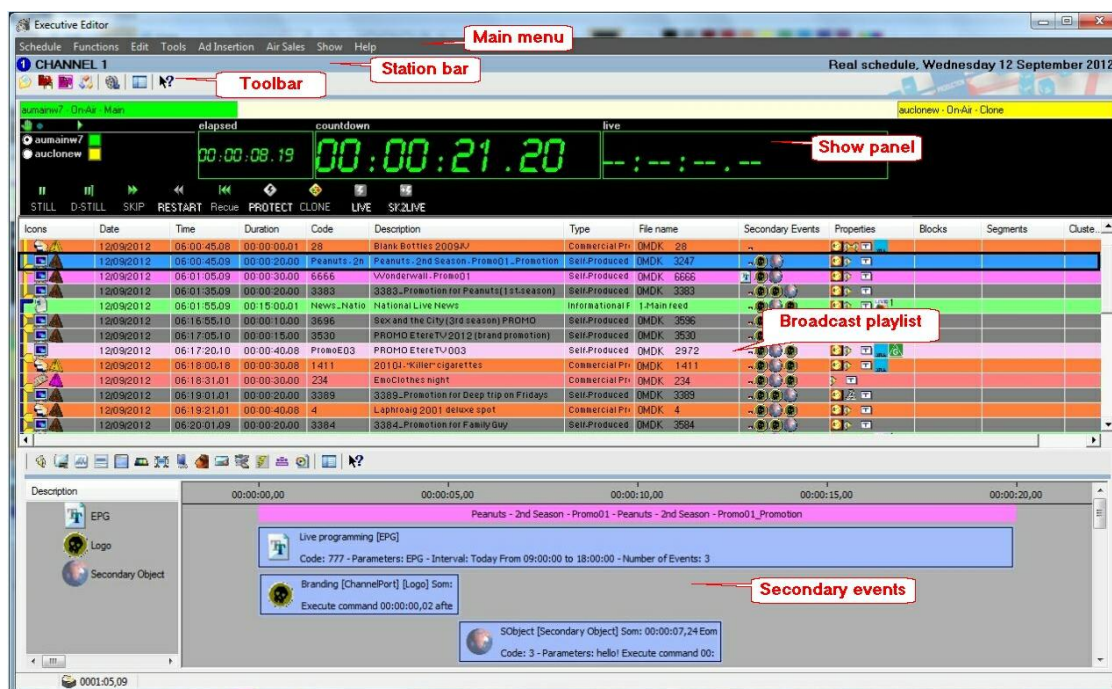
▼ 3.4.11. Security integration

EtereWeb works perfectly behind routers so remote access and ftp transfers are drastically improved. NLE systems can deliver contents via Etere Web as a digital equivalent of physical reception, where selected people can deliver video and metadata to the station, but owing to its digital nature, operations are perfectly organized, performed and logged, avoiding loss of any content information. Moreover, as a further security level, Etere provides direct authentication of web users through the station's active directory domain.

▼ 3.5. Scheduling: A complete playlist management

Etere Scheduling takes care of one of the most delicate process of the broadcast chain, it offers a fully integrated management of daily schedules, and this application is greatly composed by various simple applications that those who draw up the daily schedule will appreciate.

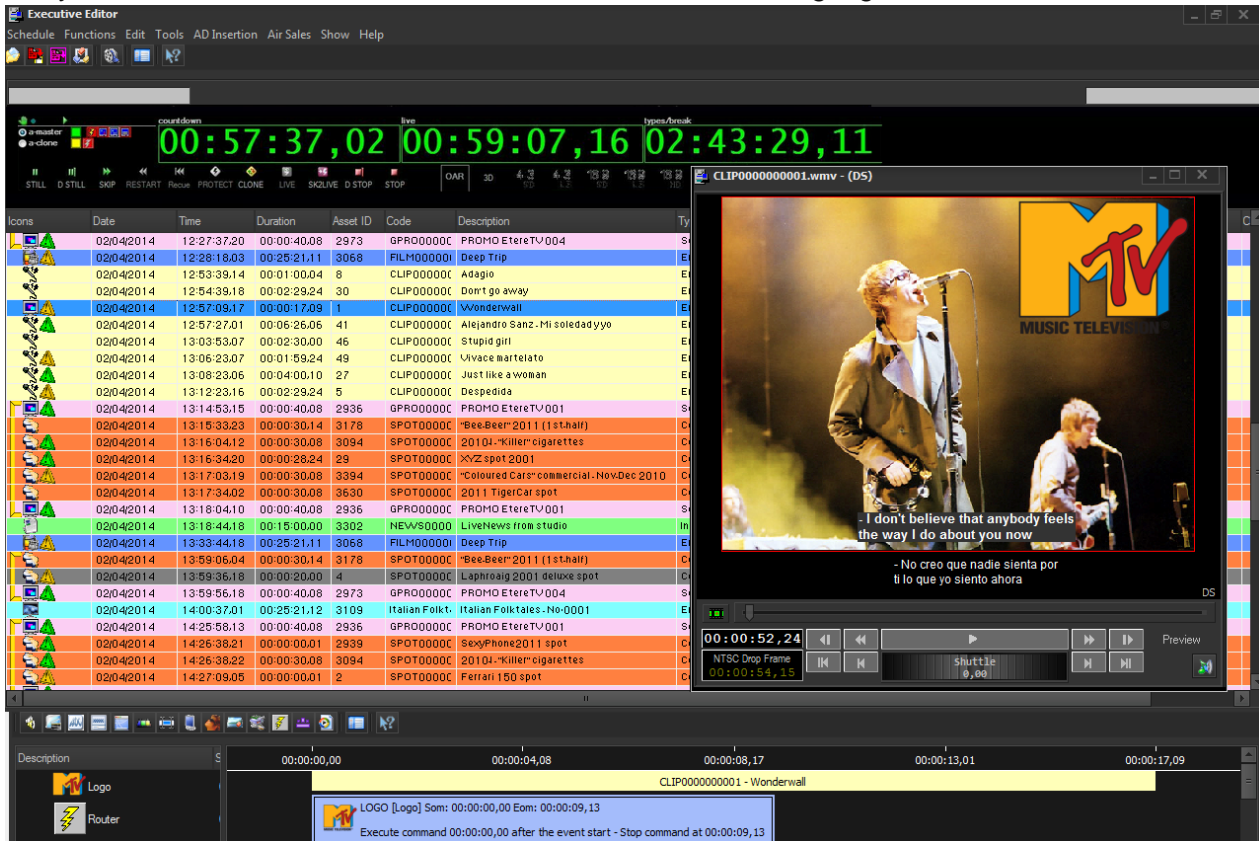
Executive Editor is the broadcast programming solution to made up programming schedules, offering a digitally based broadcast scheduling of your transmission using a second-by-second approach, so you can freely and accurately define what to broadcast and when, ensuring that every second of airtime is covered.



- **Enterprise interface**, an easy-to-use main scheduling application for drawing up broadcast schedules manually, Executive Editor can manage up to 10 different alternative schedules besides from the main one (real scheduling).
- **Instant editing**, the schedule view is clearly laid out for ease of management, in this way, the simplicity of the software, the immediacy of the user interface and the completeness of the contextual help make this application extremely easy to use.
- **Tight integration**, due to the Etere distributed system architecture, you will be able to see events made with other Etere Modules (i.e. Etere Air Sales, Etere BMS, etc) as 'commercial events' which are shown with a particular icon which identifies their property, thus, taking care of the undesired manipulation of these highly important events.

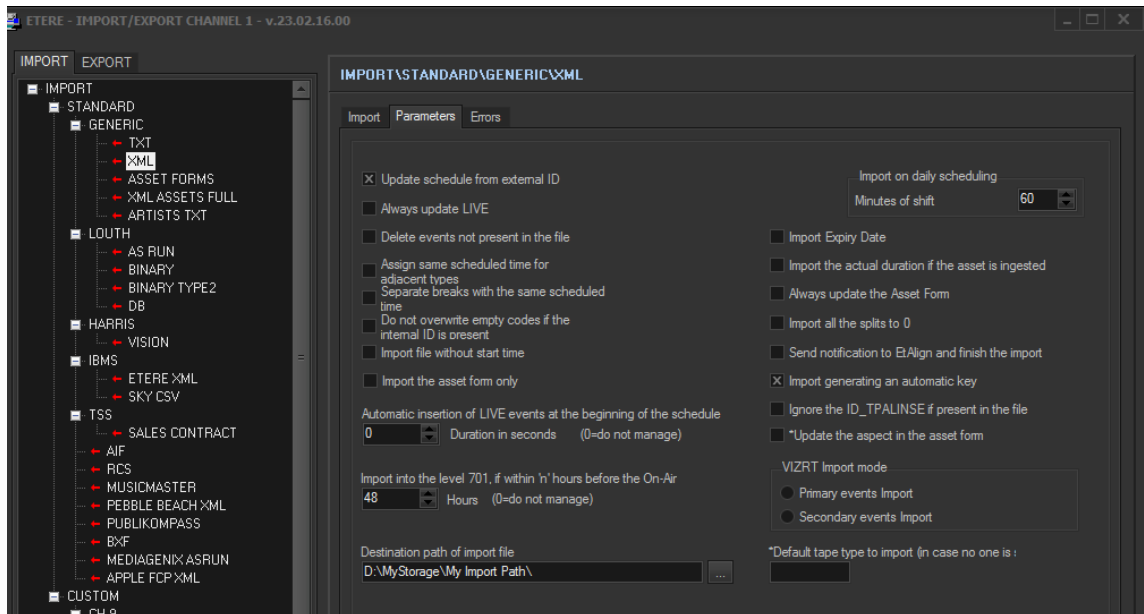
▼ 3.5.1. Rich preview feature

The **Executive Editor** allows browsing event in either low and high resolution, preview can include secondary events associated to scheduled events, inserted branding logos and eventual subtitles:



▼ 3.5.2. Robust import/export tool

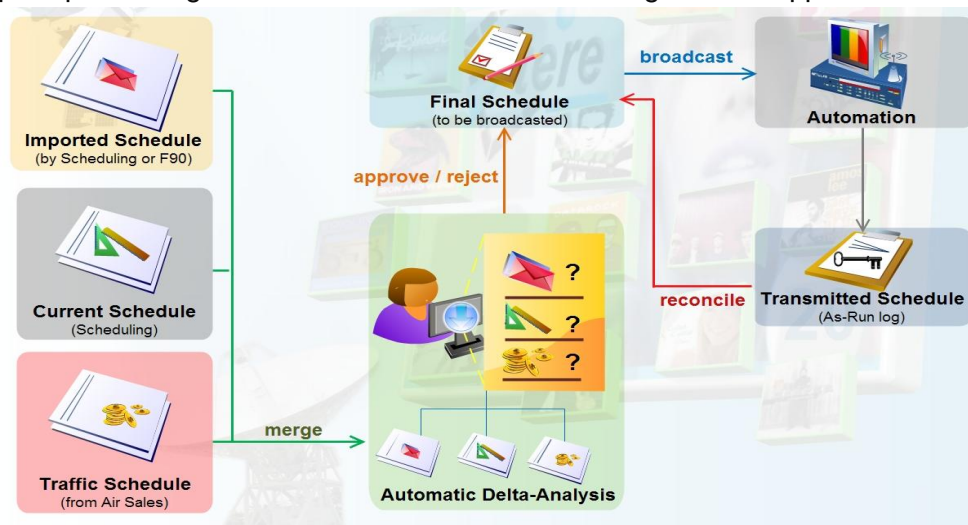
The **Import / Export** module included in Etere Scheduling allows to perform the importation and exportation of daily schedules in a wide set of fully customizable formats, ensuring the interaction of Etere with other scheduling systems and vice versa going from a generic txt or xml to a fully tailored exportation file:



Some of the several types supported by the import/export system includes TXT, XML, XML for assets, XML with tapes, TXT for money, XML assets full, EPG, etc. For instance, the **XML import** allows importing from an XML file the broadcast schedule for one or more television days. Values are identified by the name of the tag specified in the XML file, which are the same as the fields present in the Etere's *asset repository* and *broadcast playlists* tables.

▼ 3.5.3. Verify and approve changes

Etere Scheduling also provides operators with a simple graphical module to view, analyze and approve changes (i.e.: traffic, imported, and corrected programs) between the current schedules and any imported schedule. When the current schedule has incoming changes, the operator is advised through a prompt-message which announces that new changes to be approved are available:



Changes, Thursday 25 February 2010

Code	Description	Type	Scheduled time	Source	Cluster Sort
28	Blank Bottles 2009-IV	COMMERCIALS	06:00	TRAFFI	NEW 120
22	North Live News	NEWS	06:05		
3082	Bee-Beer Advert 2010-I	COMMERCIALS	07:00	TRAFFI	NEW 120
3064	Testing Advertising Commerci	COMMERCIALS	08:00	TRAFFI	NEW 120
	Peanuts-0004	TV Series	08:05		
3087	Sexy Phone Commercial 201C	COMMERCIALS	09:00	TRAFFI	NEW 120
70	Jeux D'Enfants	FILM	09:05		
41	XYZ Running Shoes 2009	COMMERCIALS	10:00	TRAFFI	NEW 120
3087	Sexy Phone Commercial 201C	COMMERCIALS	11:00	TRAFFI	NEW 120
	Sex and the City-0002	TV Series	11:05		
28	Blank Bottles 2009-IV	COMMERCIALS	12:00	TRAFFI	NEW 120
87	NATIONAL Live News	NEWS	12:05		
3082	Bee-Beer Advert 2010-I	COMMERCIALS	13:00	TRAFFI	NEW 120
3064	Testing Advertising Commerci	COMMERCIALS	14:00	TRAFFI	NEW 120
3087	Sexy Phone Commercial 201C	COMMERCIALS	15:00	TRAFFI	NEW 120
	Peanuts-0016	TV Series	15:05		
41	XYZ Running Shoes 2009	COMMERCIALS	16:00	TRAFFI	NEW 120
	Sex and the City-0021	TV Series	16:05		
28	Blank Bottles 2009-IV	COMMERCIALS	17:00	TRAFFI	NEW 120
3082	Bee-Beer Advert 2010-I	COMMERCIALS	18:00	TRAFFI	NEW 120
22	North Live News	NEWS	18:05		
3064	Testing Advertising Commerci	COMMERCIALS	19:00	TRAFFI	NEW 120
3087	Sexy Phone Commercial 201C	COMMERCIALS	20:00	TRAFFI	NEW 120
41	XYZ Running Shoes 2009	COMMERCIALS	21:00	TRAFFI	NEW 120
28	Blank Bottles 2009-IV	COMMERCIALS	22:00	TRAFFI	NEW 120
3082	Bee-Beer Advert 2010-I	COMMERCIALS	23:00	TRAFFI	NEW 120
3068	Deep Trip	FILM	23:05		
3064	Testing Advertising Commerci	COMMERCIALS	00:00	TRAFFI	NEW 120
3087	Sexy Phone Commercial 201C	COMMERCIALS	01:00	TRAFFI	NEW 120
	Peanuts-0001	TV Series	02:00	IMPORT	GENERIC
41	XYZ Running Shoes 2009	COMMERCIALS	02:00	IMPORT	GENERIC
	Sex and the City-0004	TV Series	02:30	IMPORT	GENERIC
	Peanuts-0015	TV Series	03:00	IMPORT	GENERIC
	Sex and the City-0005	TV Series	03:30	IMPORT	GENERIC

a consistent system

Field	Change	Schedule
Code	Peanuts-0001	
Description	Peanuts - No.0001	
Type	TV Series	
Duration	00:30:00.00	
File name	SD 4.3	
Aspect	2988	
Scheduled date	26/02/2010	
Scheduled time	02:00	

This simple interface allows the operator to easily identify the source from which changes have arrived and then decide to either approve or reject them through a simple selection process.

▼ 3.5.4. Planning of secondary events

A **Secondary Events Planning** form permits to automatically schedule secondary events (including crawls) according to user-defined criteria based on either specific time slots or event durations/types. All provided features have been summarized in the following key points:

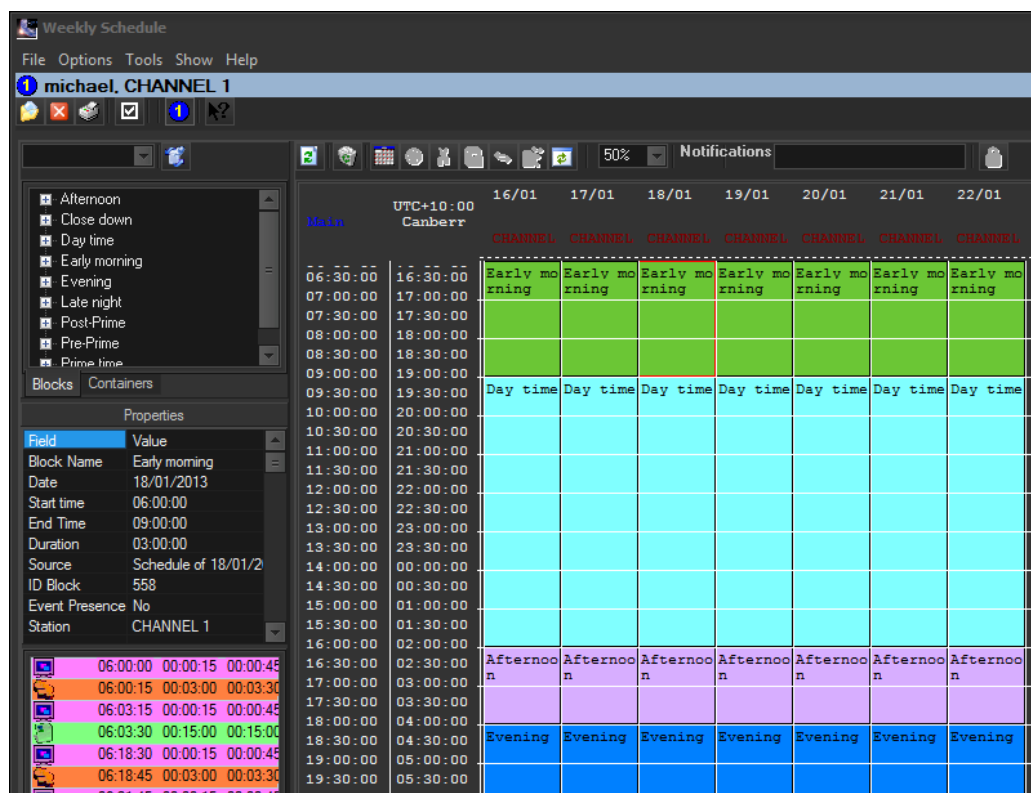
- Recursive insertion within profiles
- Scheduled appearances information
- Planned data monitoring from EE

▼ 3.6. Air Sales: Commercial Traffic Management

Etere Air Sales is a complete, modular and scalable traffic system for the management of the planning and commercial processes of a broadcaster. From planning to playout, it provides specialist application modules to manage sales, planning, presentation, scheduling and invoicing of commercial contents.

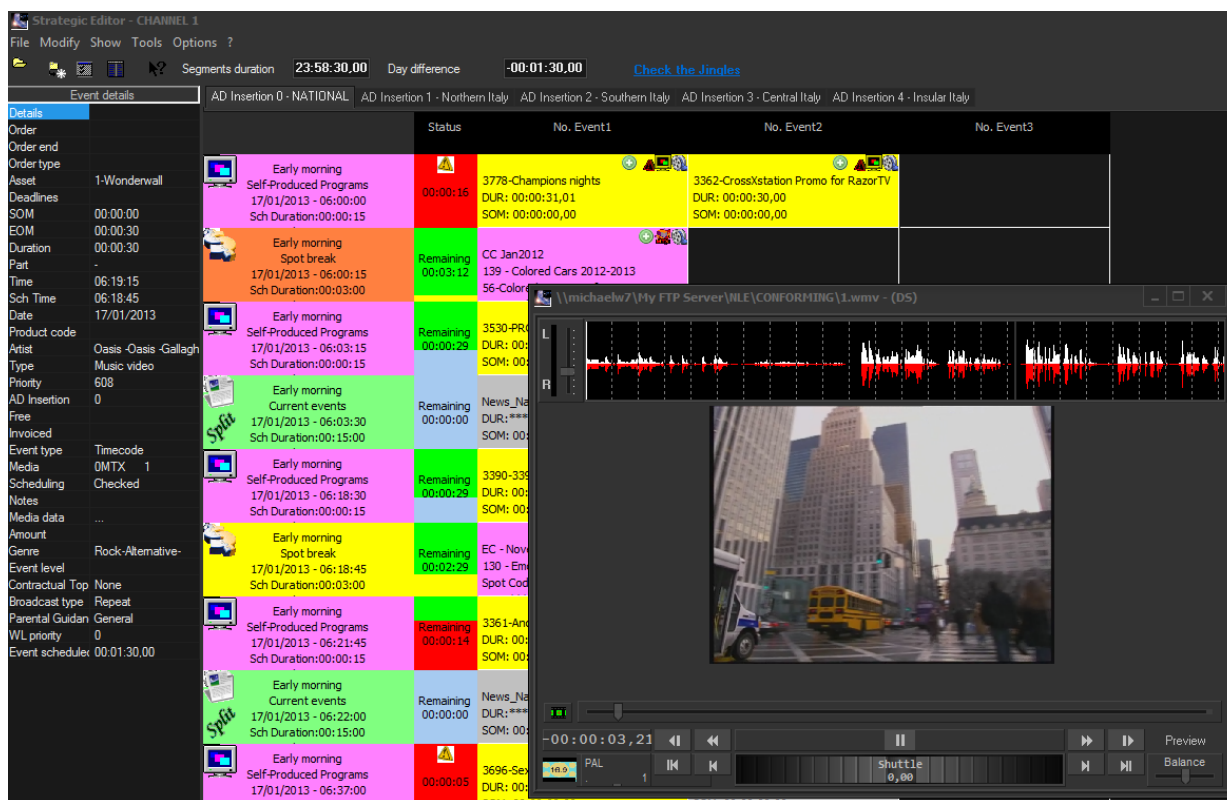
▼ 3.6.1. Automated scheduling structure

Weekly Schedule is the module that permits to build long-term and frame-accurate schedule grids that will define the traffic playlist, this schedule grid is formed by program blocks which at their time are formed by program segments defined by specific properties (i.e.: time range, duration, program type, price list, etc.):



▼ 3.6.2. Automatic and manual scheduling

The **Strategic Editor** module provides a high flexibility to the scheduling process, based on a schedule grid structure; it integrates schedules with the assets' database, ensuring a rock-solid scheduling module where only valid events can be scheduled. Moreover, **Strategic Editor** features various facilities such as multiple color displays, intuitive events selection, automatic rights verification, etc.



▼ 3.6.3. Sales orders

The **Sales** module allows elaborating proposals that includes multiple product details which can be made up by multiple assets (e.g.: for different channels or periods). A **customer-tailored** elaboration of Sales proposals is possible thanks to the use of flexible schedule grids improved with key booking features such as an automatic pricing based on day parts (e.g.: breakfast, lunch, dinner and late-night) and a powerful spot placement based on key scheduling criteria (i.e.: top, bottom, priority, rotation or optimization).

Sales CHANNEL 1

Proposal -> Running

Search General Lines 7 Lines model 1

Channel	From	To	Description	Duration	Total	Unit price	Scheduling type	P/E/M	Amount
CHANNEL 1	01/12/2012	31/12/2012	K-Cigarettes Dec2012	00:00:30.00	50	1.149,00	Priority	Paid	57.450
CHANNEL 1	01/12/2012	31/01/2013	K-Cigarettes Jan2013	00:00:30.00	100	1.149,00	Priority	Paid	114.900

Total to schedule: 150 Total cost: 0.00 Total: 172.350,00 Total discount: 5.170,50

General Asset Options

Scheduling type: ☒ Priority ☐ Rotation ☐ Optimization ☐ Fixed time
☐ Top ☐ Bottom ☐ Top and Bottom ☐ Exclusive Top/Bottom

Filler type: ☒ None ☐ Filler ☐ Add to fillers list

Priority: 500 WL: 60 Hide from Air Sales Scheduler

From date: 01/12/2012 To date: 31/12/2012
 Start time: 06:00 End time: *(+1d) 06:00

Spot Code: STAND Duration: 00:00:30.00
 Description: K-Cigarettes Dec2012
 Total to schedule: 50 Max daily run: 8
 Product code: 27545 SMOKING ITEMS
 Production: 0.00 Dubbing: 0.00

Mode: ☒ Calculated unit price 1.149,00 ☐ Free
☐ Calculated unit price and fixed
☐ Unit manual price 0,00
☐ Calculate from this total 0

Blocks

Name	Types	Price list	Days
Afternoon	COMM:SELF.S...	16:00-18:00 Afternoon...	<input checked="" type="checkbox"/> Sunday
Close down	SELF:SPOT:P...	02:00-06:00 CloseDay...	<input checked="" type="checkbox"/> Monday
Day time	COMM:SELF.S...	09:00-16:00 Day time...	<input checked="" type="checkbox"/> Tuesday
Early morning	COMM:SELF.S...	02:00-06:00 CloseDay...	<input checked="" type="checkbox"/> Wednesday
Evening	COMM:SELF.S...	18:00-20:00 Evening...	<input checked="" type="checkbox"/> Thursday
Late night	COMM:SELF.S...	24:00-02:00 Late nig...	<input checked="" type="checkbox"/> Friday
Post-Prime	COMM:SELF.S...	23:30-00:00 PostPrim...	<input checked="" type="checkbox"/> Saturday
Pre-Prime	COMM:NEWS:...	20:00-20:30 PrePrime...	
Prime time	COMM:PROG:...	20:30-23:30 Prime.W...	

▼ 3.7. Money: Billing and Bookkeeping

Etere Money is an essential and suitable component for any business system as broadcasting is, it allows to perform and record all financial transactions involved in the company workflow and thus make this information available for bookkeeping, reporting and auditing.

Etere Money consist of a set of accounting tools made available to improve the management of commercial sales, programming and invoicing. Etere Money is able to perform the most common accounting operations including transactions recording, deadlines management, payments registration, commissions settlement and accounting reports.

Etere Money is tightly integrated with all Etere modules (e.g. **Air Sales**) to allow a centralized management of invoices including a set of tools that permits operators to easily bill invoices and pay salesmen commissions in just few steps:

Description	Q.ty	Amount	Disc.t	Total
Order: 131-EC - JanFeb2013	0	€0,0000	0	€0,00
Notes:	0	€0,0000	0	€0,00
Total order: €88,00	0	€0,0000	0	€0,00
Events Transmitted in the period :01/01/2013 - 07/01/2	0	€0,0000	0	€0,00
Production Exp. 01/01/2013	1	€11,0000	0	€11,00
Dubbing Exp. 01/01/2013	1	€33,0000	0	€33,00
Production Exp. 01/02/2013	1	€11,0000	0	€11,00
Dubbing Exp. 01/02/2013	1	€33,0000	0	€33,00

Money has a wide set of tools including the **Deadlines Management** module, which allows settling outstanding invoice deadlines (+) and credit note deadlines (-):

Etere Money - Deadlines - ETERE LICENSE - 2013

Select Edit

• Expiry Date From To
• Document date
• Payment date

Customer Code/Supplier
Payment:
Document No.:

• Paid
• Unpaid
• All

• Credits
• Debits
• All

Search

Transaction N	Year	Account Code	Cus/Sup	Company Name	Amount	Expiry Date	Document date	Payment date	Docur
23	2012	1 1010	ColoredCar	ColoredCar	52,50	22/12/2012	22/11/2012		94
30	2012	1 1010	ColoredCar	ColoredCar	71,34	22/12/2012	22/11/2012		101
27	2012	1 1010	DevilsAgency	Devil's Agency	17,84	22/12/2012	22/11/2012		98
25	2012	1 1010	RazorTV	RazorTV	891,68	22/12/2012	22/11/2012		96
32	2012	1 1010	Laphroaig	Laphroaig	2.875,00	31/12/2012	31/12/2012		104
29	2012	1 1010	Sexy Phones	S-Phones Tech Co.	10,70	31/12/2012	22/11/2012		100
1	2013	1 1010	EmoClothes	Emo Clothes	92,40	16/01/2013	16/01/2013		106
2	2013	1 1010	EmoClothes	Emo Clothes	0,00	16/01/2013	16/01/2013		107
29	2012	1 1010	Sexy Phones	S-Phones Tech Co.	10,70	31/01/2013	22/11/2012		100

Rows:184

Go to expiry date: 16/01/2013 ->

Total Selected: 0,00

Total Selected minus Rebates: 0,00

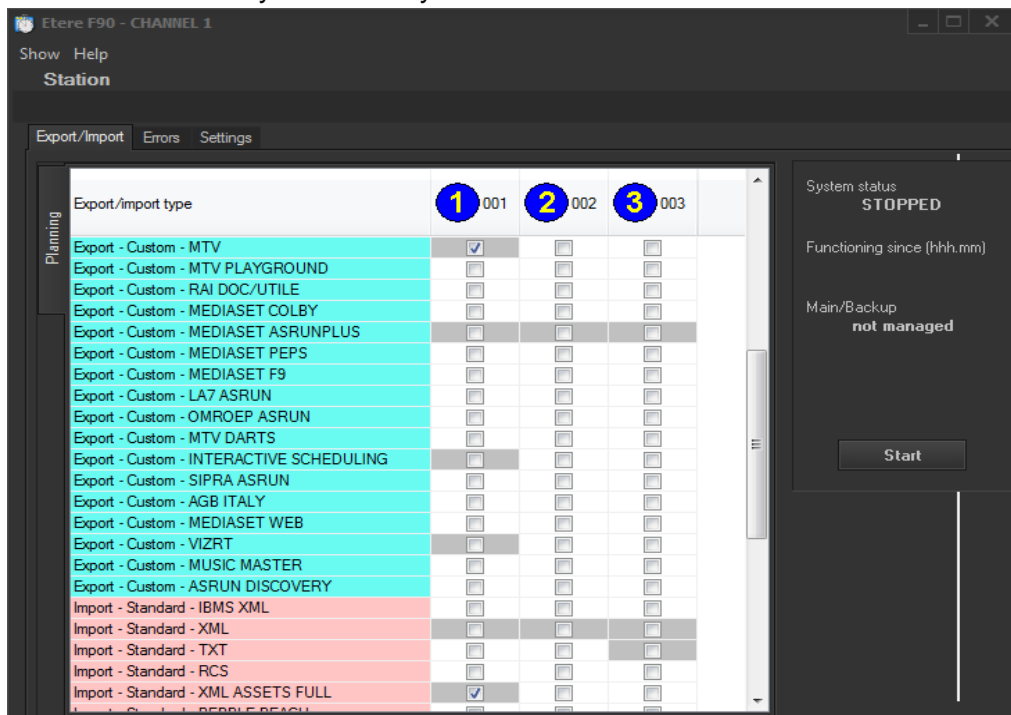
Print Type
• Divided by customer
• Divided by month
• Divided by Agency/Customer

Preview

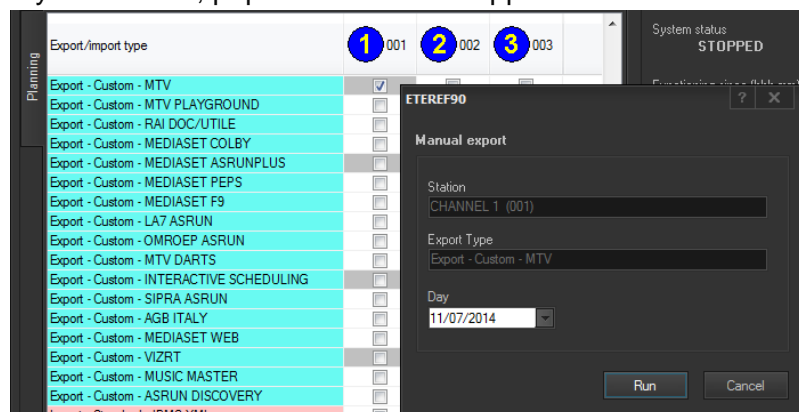
Close

▼ 3.8. F90: Automated data import/export

Etere F90 provides the system with the ability to import/export the daily playlist between Etere and other automation systems, including associated rights, alternative schedules and as-run logs, thus allowing to keep both traffic and automation systems always reconciled.



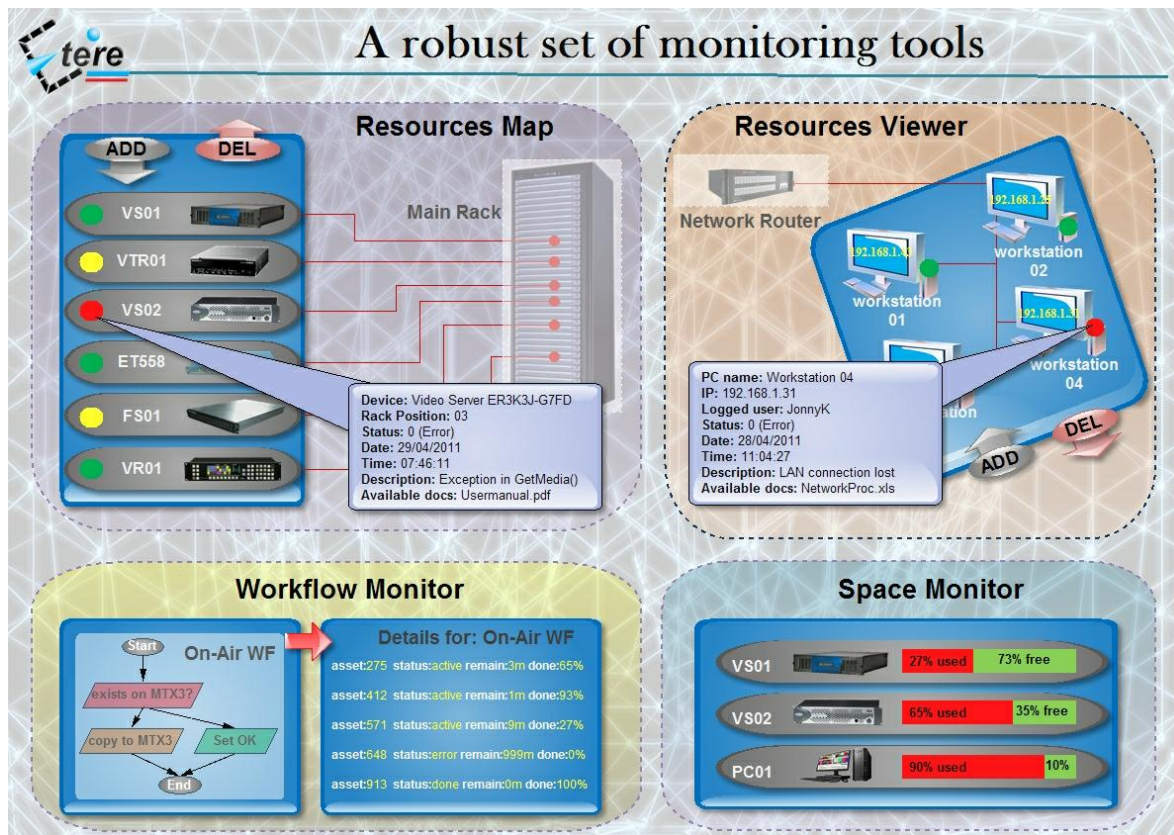
The entire system will be improved with a highly efficient and reliable connection between the station and external departments, guarantees the maximum accuracy in the process of exporting or importing information through a fully automated, paperless data flow application.



Etere F90 is able to carry out continuously the import schedules to the main DB from a PC by setting a UNC path, as well as export data from the main DB either to a PC by setting a UNC path or to an FTP Server. Contributing to take the overall programming process to a paperless management.

▼ 3.9. Monitoring Console: A complete SNMP monitoring

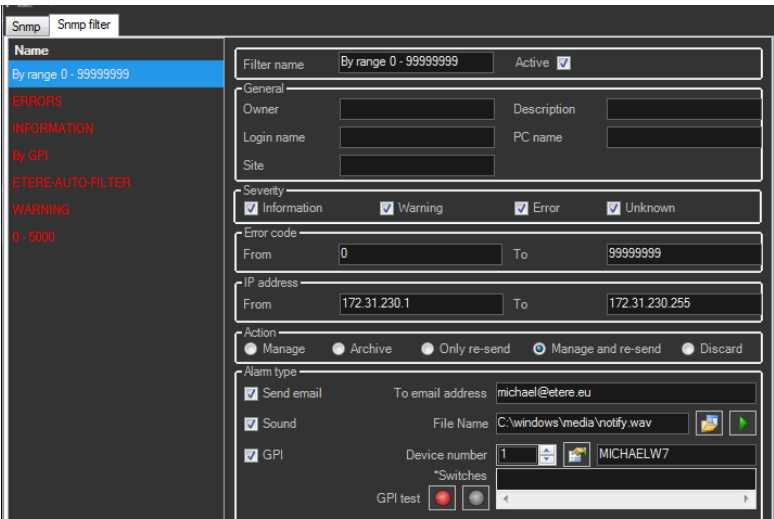
The **Monitoring Console** is a tool developed to help supervisors to have a global overview of the system, permitting them to monitor any Etere module which collects and stores its management information (errors, warnings, etc.) through the locally installed **SNMP Agent** which sends messages containing this information to a remote console which in this way monitors all the modules; through this console the operator can decide about the receiving policies (content, validity, filters, etc.).



The **Monitoring Console** is a key part of the broadcasting process because it permits to have a complete report of the way the Etere modules are working, allowing to catch errors, store them in a database for a further analysis and also forward them to an another console (forward the message to the pertinent operator who is intended to solve it) and thus saving time and resources on real-time which are invaluable assets in the broadcasting business.

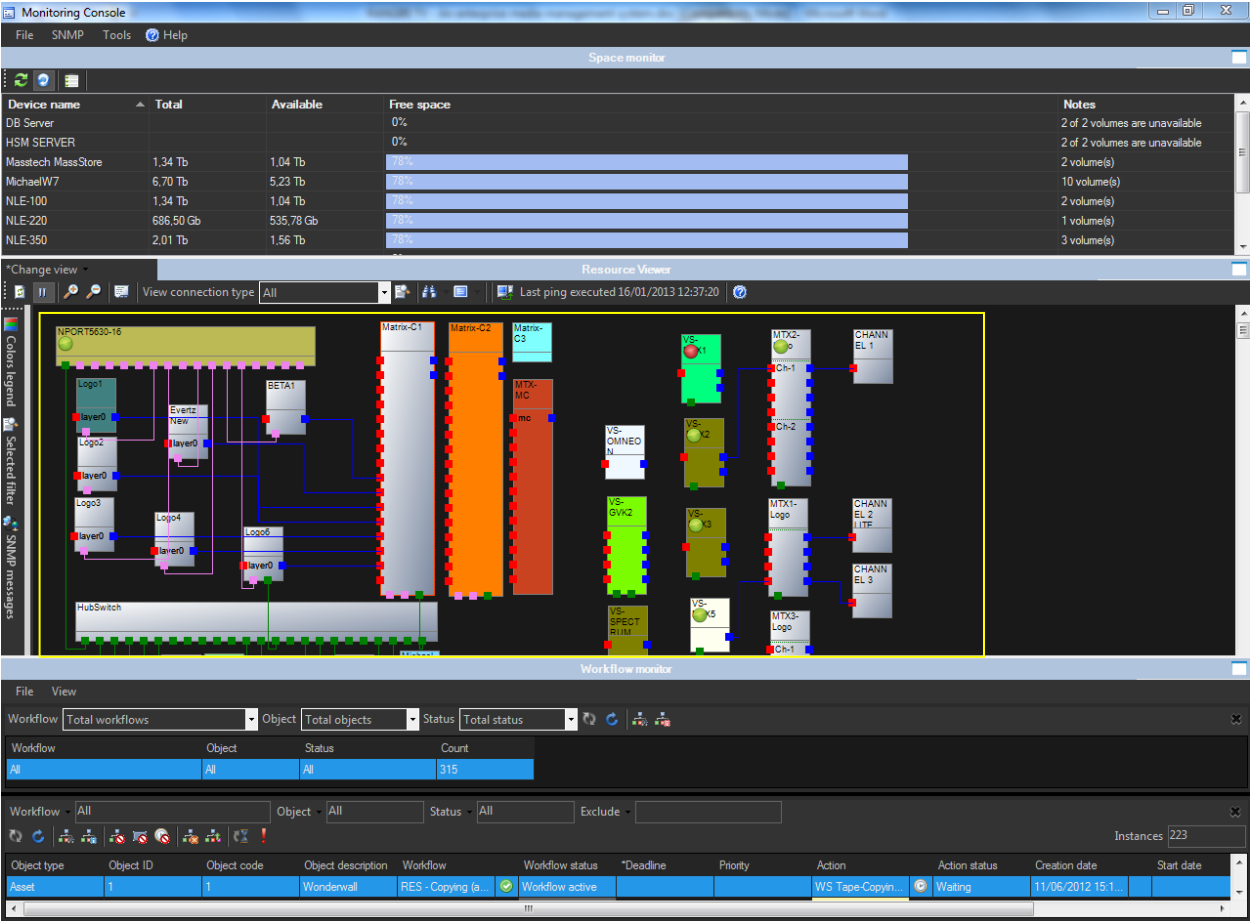
▼ 3.9.1. SNMP monitoring support

In order to improve monitoring of devices, modules and workflows all Etere components are automatically subscribed to an SNMP Service, so it will monitor the periodic heartbeats sent via SNMP by the components. The Monitoring Console detects missing heartbeats and sends both a visual-alarm and an e-mail notification to the operations department. Owing to the use of this feature, the general health of the Etere system can be further examined to isolate raised faults.



▼ 3.9.2. Visual real-time monitoring

In order to improve monitoring of modules and devices, all Etere components are automatically subscribed to the Etere SNMP Service, so it will monitor the periodic heartbeats sent via SNMP by the components.



▼ 3.9.3. Robust monitoring features

The **Monitoring Console** is smartly divided across different panels to allow a quick monitoring of specific functions. Tools included in this module are listed below:

Module	Description
SPACE MONITOR	Visualize the storage space of all devices for which <i>metadevices</i> are defined (e.g. video servers, workstations, servers, etc.).
RESOURCE MAP	View and allocate resources (e.g. workstations) across the system, thus allowing to, for example, indicate the rack position of the workstation on which an error has occurred.
WORKFLOW MONITOR	Consult all workflows (transfers, checks, requests and much more) executed on the certain station, allowing also to view and manage them each one of them.
RESOURCE VIEWER	Show a map of all resources configured in the system, showing in real-time their connection status and SNMP messages.
STATUS BAR	Display the real-time status of monitoring background tasks such as "SNMP real-time checking", "Processes monitor", "Check pingable devices from this console" , "Collect and check PC counters" and "GPI signals".

▼ 4. FUNCTIONALITIES

▼ 4.1. Distributed architecture

ETERE is an integrated broadcasting solution that implements a modular system based on a single database and formed by a set of modules oriented to cover each complex phase of a broadcasting system, focusing to efficiently carry out specific operations (e.g. ingest, archiving, transfer, etc.).



▼ 4.2. Search engine

Etere comes with a complete, versatile and powerful **search engine** which allows users to search for assets and interact with them. The user is able to search assets based on their information stored in the database. Among the several searching features which are available in this section, we can mention the following ones:

- Search for assets based on **database fields**,
- A **Full-text** search across various fields of assets,
- Full-text results are sorted on **degree of relevance**,
- Search for **synonyms** to extend the range of results,
- Searches can be saved as **profiles**,
- **Batch** management of several assets at once,
- **Customizable** tabs and fields, drag & drop enabled,
- Results can be **grouped** by types, genres or artists,
- Add, launch and view **workflows** on-the-fly,
- Filter results by **SMPTE metadata** or **Metadevice**.

▼ 4.2.1. Search filters

Some of the most common filters used for searching assets are:

Standard Extended Flags Full-text All

ID

Code

Title

Duration 00:00:00,00 00:00:00,00

Types

GlobalID

Site ☒ VIMN PARIS (2390) ☐ VIMN SINGAPORE (3)

with subtitles

Workflow

Unique identification in local system

Asset identification code

Brief asset description

Asset expected length

Asset type (e.g. spot, promo, etc.)

Unique identification in federate system

Asset source site (local/federate)

Subtitles of any or a specific language

Information on asset workflows

Assets matching the filters criteria are retrieved in the bottom part of the window, there, they can be selected (or multi-selected) in order to open or directly manage them (launch workflow, add to series, change type, etc.):

Groups

- Types
 - ACQU (1)
 - PROG (6)
 - PRT (4)
- Genres
- Artists
- Sites
 - VIMN PARIS (11)

ID	Code	Series Title	Title	Media	Episode	Version	Duration	Type	Site	Ext
25	23_2	YAMATO	1 2 3 test ham virtual doc		1	2	00:03:29.01	PROG	VIMN PARIS	
3536	ACQU00000000085	ROCKET MONKEYS	ADOBE TO DOWNLOAD		1	2	00:25:08.18	PROG	VIMN PARIS	
557	ROCKET MONKEYS-0007	ROCKET MONKEYS	ROCKET MONKEYS - No.0007		7	1	00:22:30.00	PROG	VIMN PARIS	
1065	ROCKET MONKEYS-0007_2	ROCKET MONKEYS	ROCKET MONKEYS - No.0007		7	2	00:25:08.18	PROG	VIMN PARIS	
2095	ROCKET MONKEYS-0007_2	segment 2 singing	segment 2 singing		1	1	00:01:00.01	PRT	VIMN PARIS	
2096	ROCKET MONKEYS-0007_2	Remove Black and	Remove Black and slate		1	1	00:02:00.01	PRT	VIMN PARIS	
2098	ROCKET MONKEYS-0007_2	segment 1 need help	segment 1 need help		1	1	00:01:00.01	PRT	VIMN PARIS	
2094	ROCKET MONKEYS-0007_3	ROCKET MONKEYS	ROCKET MONKEYS - No.0007		7	3	00:23:08.18	PROG	VIMN PARIS	
670	SOUTH PARK-0401	SOUTH PARK	SOUTH PARK - No.0401		401	1	00:21:59.21	PROG	VIMN PARIS	
3528	SOUTH PARK-0401_PRT1	SOUTH PARK - No.	SOUTH PARK - No.0401		1	1	00:01:00.01	PRT	VIMN PARIS	
394	ZZ-000069	ZOOLANDER	ZOOLANDER		1	1	01:25:36.01	ACQU	VIMN PARIS	

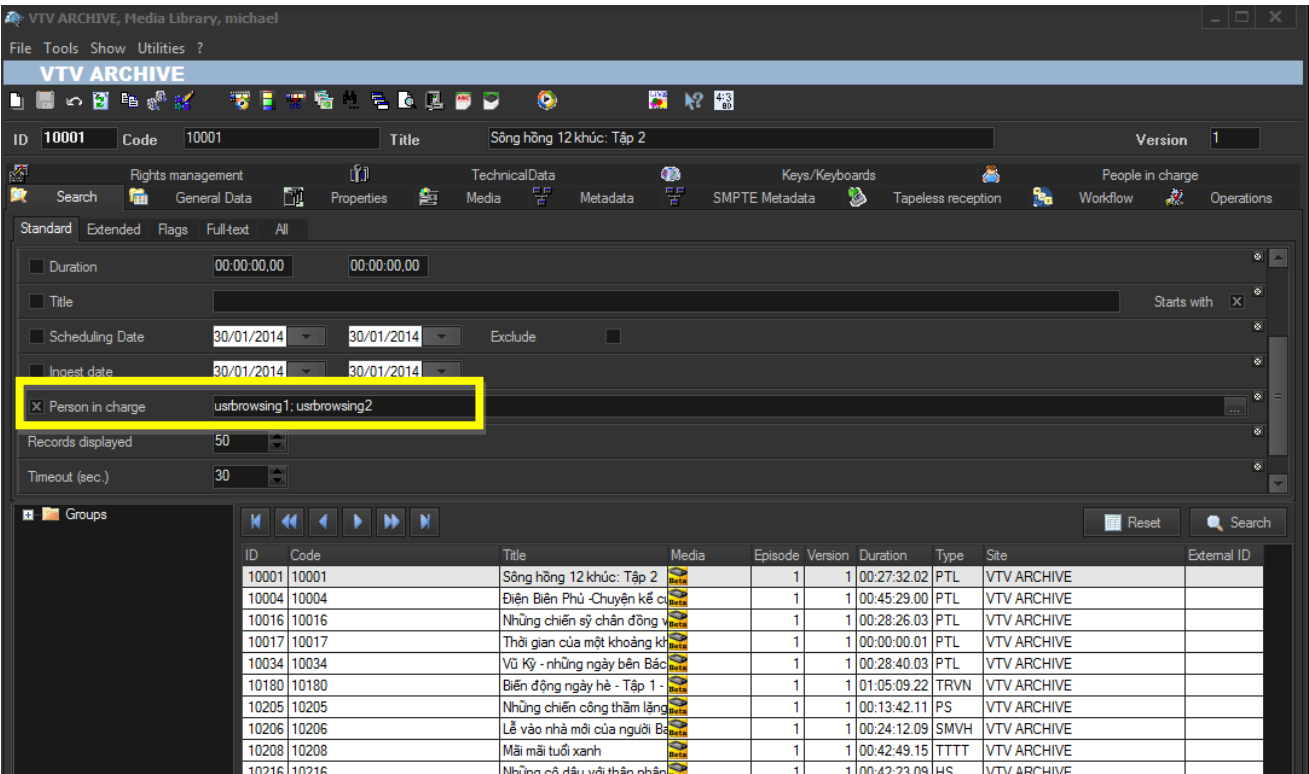
Page: 1/1 Records: 11/11 Sorted by: Code Duration: 3:32:01.06/3:32:01.06 0

Filters can be classified according to their nature into the following categories:

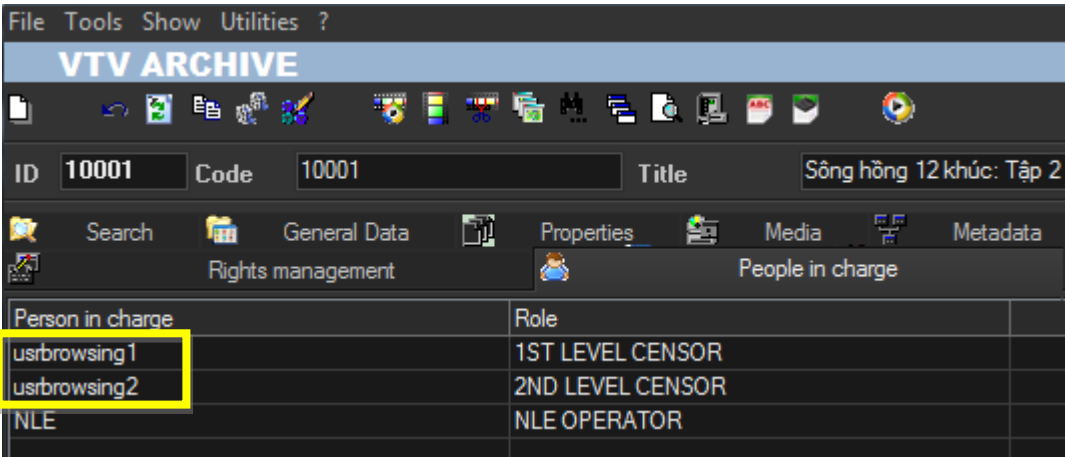
Base	Base descriptions about the asset: Id, code, title, type, stations, sites, genre, artist, etc
Media	Media information regarding devices, files and processes: Duration, metadvice, codec, video file, workflows, worksheets, etc
Dates	Dates on which specific asset operations have been performed: Production, ingest, creation, arrival, scheduling, validity start, expiry, etc
Flags	Flags detailing specific asset properties: Ok to broadcast, live, expired, ingested, archived, inactive, not tapeless, etc
With	Properties that indicates the existence of a certain object associated to the asset: Edl, video tape, data tape, subtitles, cad approval, detected blacks, etc
Full-text	Special search performed simultaneously performed across multiple tables: Title, segments, artists, genres, roles, metadata, subtitles, documents, etc

▼ 4.2.2. Multi-value filters

Filters can be used to search for multiple values, for instance, you can search for all assets which “**person in charge**” is one (or both) of the given users:



(search based on multiple “person in charge”)



(retrieved asset with “persons in charge” matching the search criteria)

▼ 4.2.3. Restricted search

Depending on whether user's groups are allowed or not to manage a certain type of asset (e.g. movies), search capabilities will be restricted to granted types only:

Stations: VTV ARCHIVE.

Groups: CATALOGUING operators.

RIGHTS

- ACCESS
- BASE
- OBJECTS
 - 50 bài hát thiếu nhi hay nhất thế kỷ 20
 - Am nhạc
 - Am nhạc diễn giải
 - Am nhạc và đời sống
 - Bài hát Việt
 - Bản tin thời sự
 - Bản tin thời sự
 - Bếp Việt

Select type

Show Help

VTV ARCHIVE, michael

Code	Description	Group
AM	Am nhạc và đời sống	VNG
AN	Am nhạc	VNG
ANDG	Am nhạc diễn giải	VNG
BNN	Bạn của nhà nông	PTLG
BTTS	Bản tin thời sự	TSG
BV	Bếp Việt	BKTG

Code

Code

Select all

OK

Cancel

Records: 124/124

Sorted by: Code

restricted permissions

restricted search

Links

Series Manager

Operations

Media

SIAE

Resources management

People in charge

Proposal

Search

Standard

Extended

Flags

Full-text

All

Code

ID

Series Title

X Types

Duration

Title

Scheduling Date

30/01/2014

30/01/2014

Exclude

Groups

ID	Code	Title	Media	Episode	Version	Duration	Type	Site	External ID
10109	10109	Bản tin thời sự VTV1, 19 giờ		1	1	00:39:34	BTTS	TV ARCHIVE	
10110	10110	Bản tin thời sự VTV1, 19 giờ		1	1	00:00:00	BTTS	TV ARCHIVE	
10111	10111	Bản tin thời sự VTV1, 19 giờ		1	1	00:41:19	BTTS	TV ARCHIVE	
10112	10112	Bản tin thời sự VTV1, 19 giờ		1	1	00:35:59	BTTS	TV ARCHIVE	

restricted results

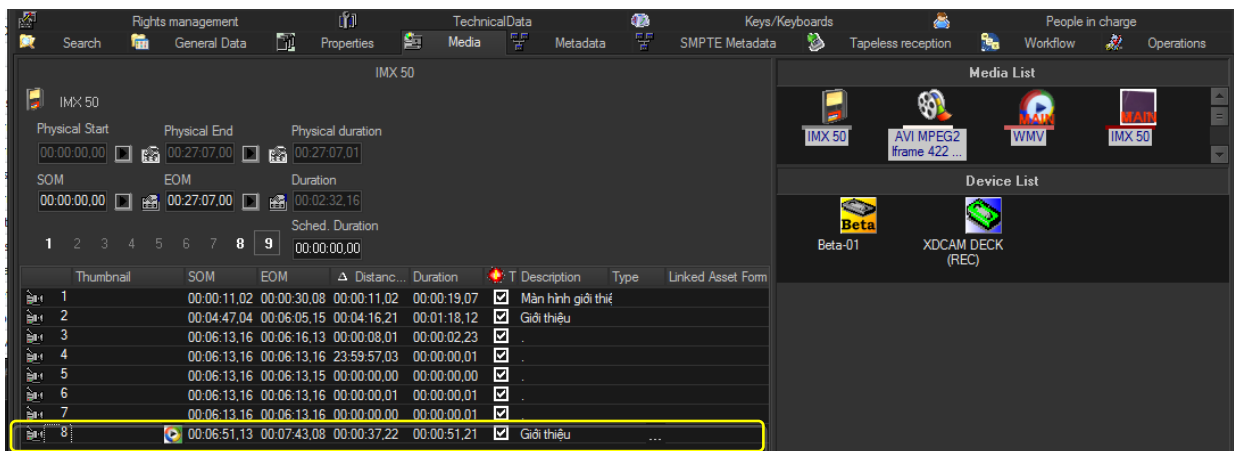
▼ 4.3. Operations history

All operations performed in Etere against **assets** are recorded and available for consulting from:

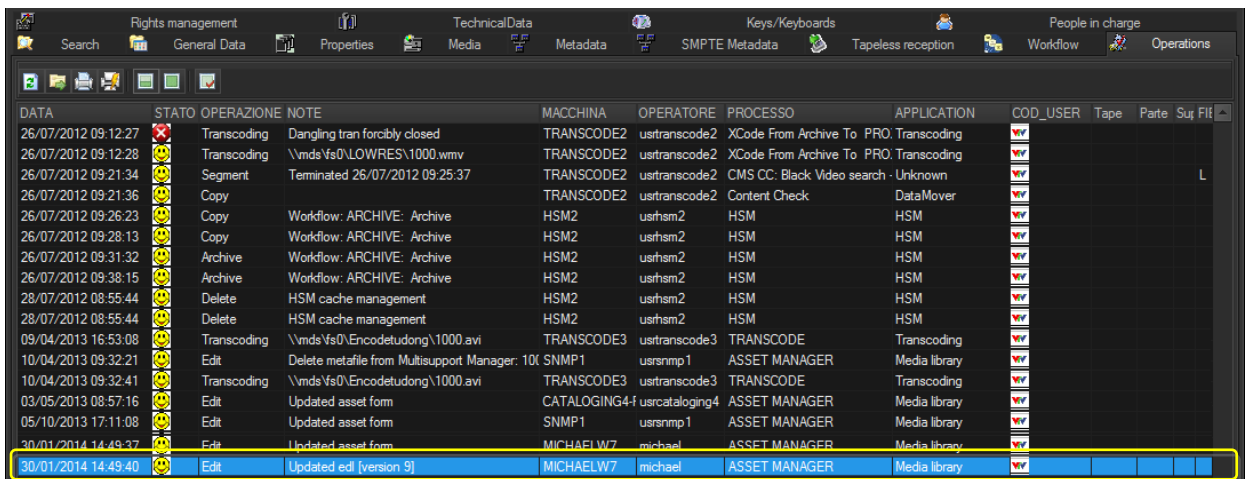
▼ 4.3.1. Asset operation logs

Asset operations (e.g. copy, transcode, edit, etc.) are logged under the “Operations” tab of the **Media Library**. For instance, if a user modifies an **asset EDL**, said operations will be recorded and made available:

1. The user modifies an EDL:



2. The operation is automatically logged in the system:



▼ 4.3.2. Workflow logs

In the same way as for asset operations, all workflow operations are logged, they can be consulted under the “Workflow” tab of the **Media Library**:

ID	Log	Date	Action	Category	Status	Result	Notes	Login Name	User
218705		19/08/2013 16:55:28	End	System	Action complete			service_broker	
218704		19/08/2013 16:55:28	End	System	Action just activated			service_broker	
218703		19/08/2013 16:55:28	End	System	Action just activated			service_broker	
218702		19/08/2013 16:55:28	Ok to broadcast	Asset	Asset updated	0	Updated asset 1065 to Ok to broadcast	service_broker	
218701		19/08/2013 16:55:28	Ok to broadcast	Asset	Action just activated			service_broker	
218700		19/08/2013 16:55:28	Ok to broadcast	Asset	Action just activated			service_broker	
218699		19/08/2013 16:55:28	Set Editorial Approval Date T	Asset	Set current time	0	Updated asset 1065 setting item 0E FF 22 00 00 00 00	service_broker	

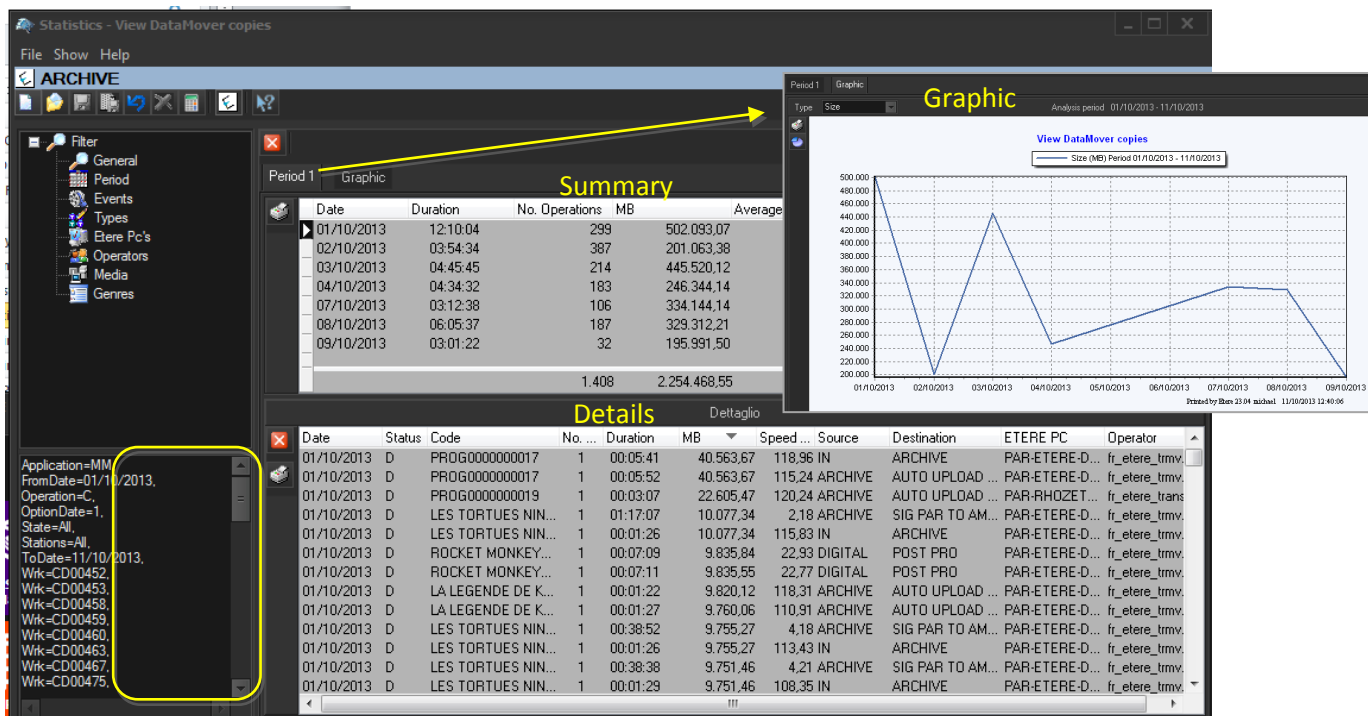
▼ 4.3.3. SMPTE stored values

Metadata automatically/manually compiled during the management of an asset can be consulted from the “**SMPTE metadata**” tab:

ID	Code	ROCKET MONKEYS-0007_2	Title	ROCKET MONKEYS - No.0007	Episode	7
Existing metadata not viewed for this form						
PROGRAMMING	MEDIADESK	CONTENT OPERATION	FEDERATED	ETERE LOUDNESS	PRODUCTION	COORDINATOR
ABC						ABC356747
LBC						
TX External						
SBC						
MTV Classification						IUM
Dubbing Company						
Subtitle French						Request
Content Approval						Not Approved
Content Approval Date Time						14/08/2013 15:35:00

▼ 4.3.4. Statistics

View statistics on a certain function (e.g. DataMover copies), detailed by period, events, type, computers, operators, media and genres:



▼ 4.3.5. Reports

Etere Reporting Services provides an intuitive report environment to enable users to have an enterprise reporting environment enhanced with an unlimited number of custom reports; it enables reports to be easily designed and accurately managed through a reporting engine that allows to preview, print and export any report under a user-friendly user interface.

Etere Reporting Services integrates a dedicated reports database with the main system database, thus improving the reliability and performance of the system since all reports (and their settings and snapshots) are stored in a dedicated server.

1 CHANNEL 1

*Tasks status by workflow

WorkflowRES - QUICK CensorshipActionAll

AssigneeAll*Validity period1/07/2012 - 1/10/2012

*Workflow - Action

Code	Title	Assignee	*Validity start	*Validity end	Status	*Executor	*Execution time	Duration	Result
RES - QUICK Censorship - WS Censorship Approval (w/p)									
2	Ferrari 150 spot	Vasquez Michael	18/09/2012 10:12:07 AM	25/09/2012 10:12:07 AM	Running				
2280	test work order	Administrators	27/09/2012 11:28:07 AM	4/10/2012 11:28:07 AM	To do				
3671	Casablanca	Administrators	27/09/2012 10:56:44 AM	4/10/2012 10:56:44 AM	To do				
3745	A blue automobile	Administrators	26/09/2012 4:05:22 PM	3/10/2012 4:05:22 PM	Done	michael	26/09/2012 4:06:09 PM	00:34:00	Approved

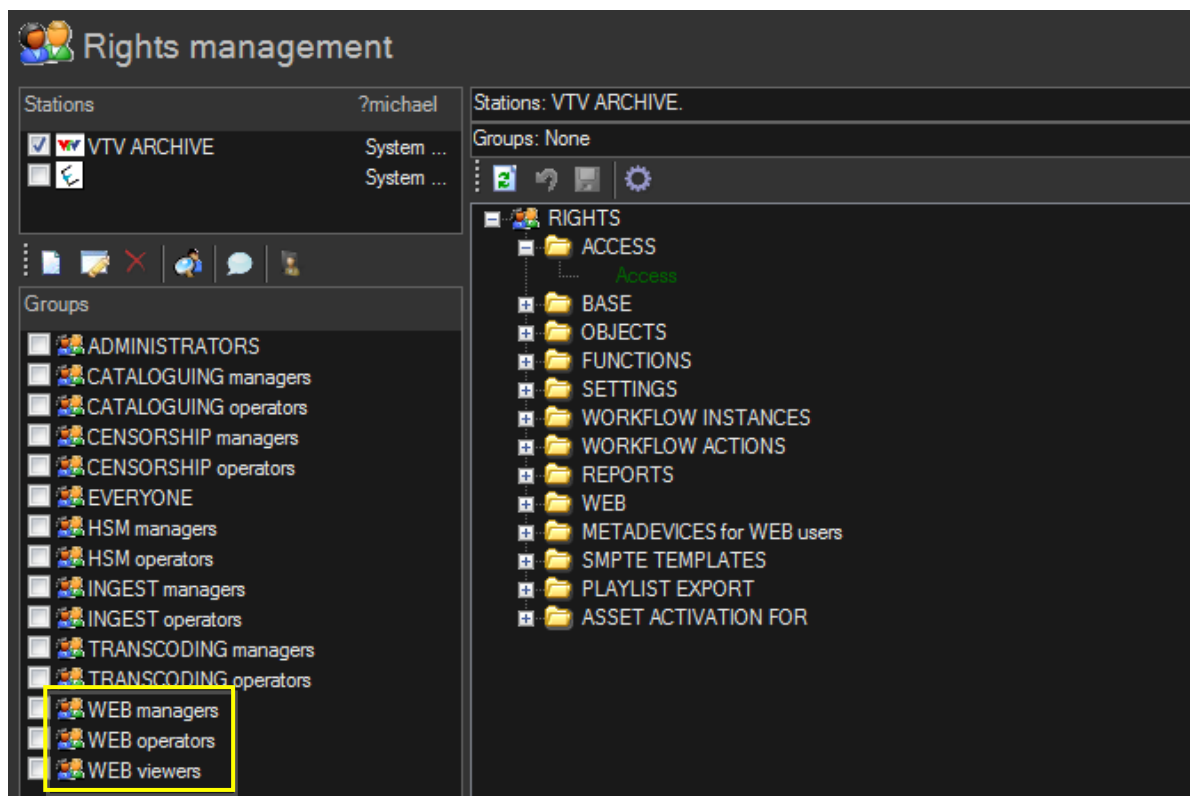
▼ 4.4. Role-based Access Control

Etere provides a “**Rights Management**” interface to control access to its various modules and functions, with it, stations will be able to freely grant or deny access to specific user groups (i.e. roles), thus allowing to set different mixtures of access levels for each group.

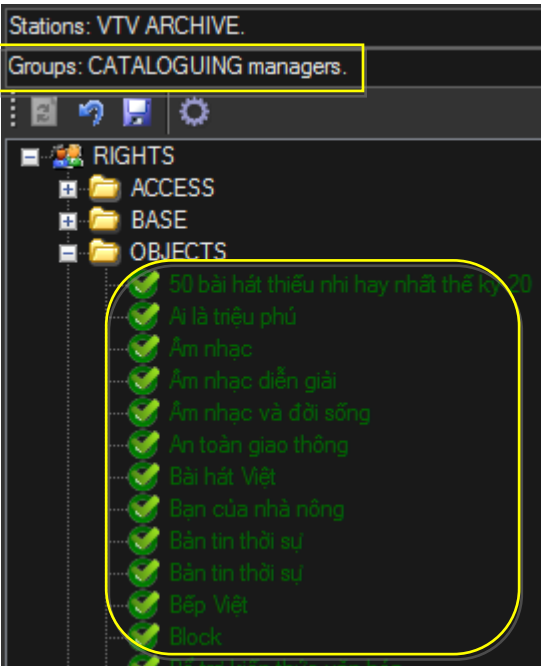
▼ 4.4.1. Permission levels

Etere allows managing different access levels for users which form part of the system; specific access rights not only for different users, but also for different stations. As shown below, groups can be split into sub-groups to enable a more-specific assignment of permissions, for example, the “**Web**” group intended to control web users can be split as follows:

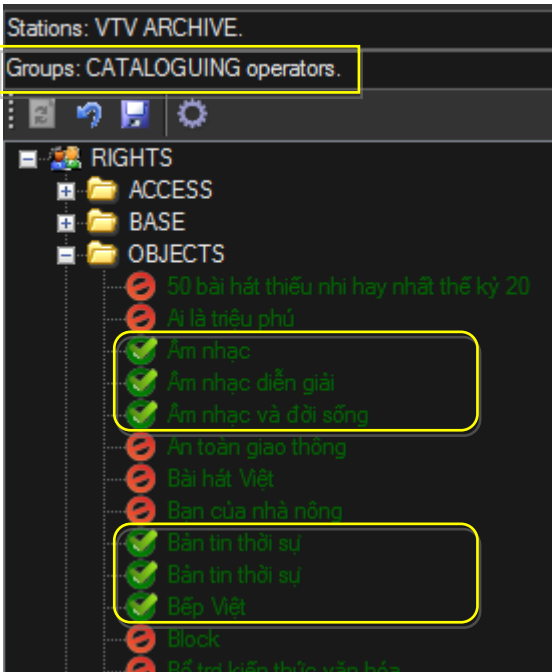
- **Web managers:** Users enabled to change the web service settings (e.g. upload devices).
- **Web operators:** Users enabled to view and modify data (e.g. fill asset metadata).
- **Web viewers:** Users enabled to view but not to modify data (e.g. watch proxy videos).



All Etere features (e.g. functions, workflows, stations, etc.) falls under different categories, the availability of these functions is determined by the “Rights Management Tool”, where rights are set for *specific groups* of users:



(Cataloguing managers: full permissions)



(Cataloguing operators : restricted permissions)

▼ 4.4.2. Active Directory Integration



Etere allows creating a new rights structure importing groups and users from your organization's **MS Active Directory**. Once opened, this tool will display all groups and users present in the Etere Rights structure, allowing to update the Etere Rights structure by synchronizing it against the MS Active Directory.

Groups and users will be displayed along with a status icon:

	The <u>group/user</u> will be added to the <i>Etere Rights</i> since it is present in the <i>MS Active Directory</i> .
	The <u>group/user</u> will be removed from the <i>Etere Rights</i> since it is missing in the <i>MS Active Directory</i> .
	The <u>group</u> has users that will be added/removed from the <i>Etere Rights</i> since they are present/missing on the <i>MS Active Directory</i>

▼ 4.5. Documents Management

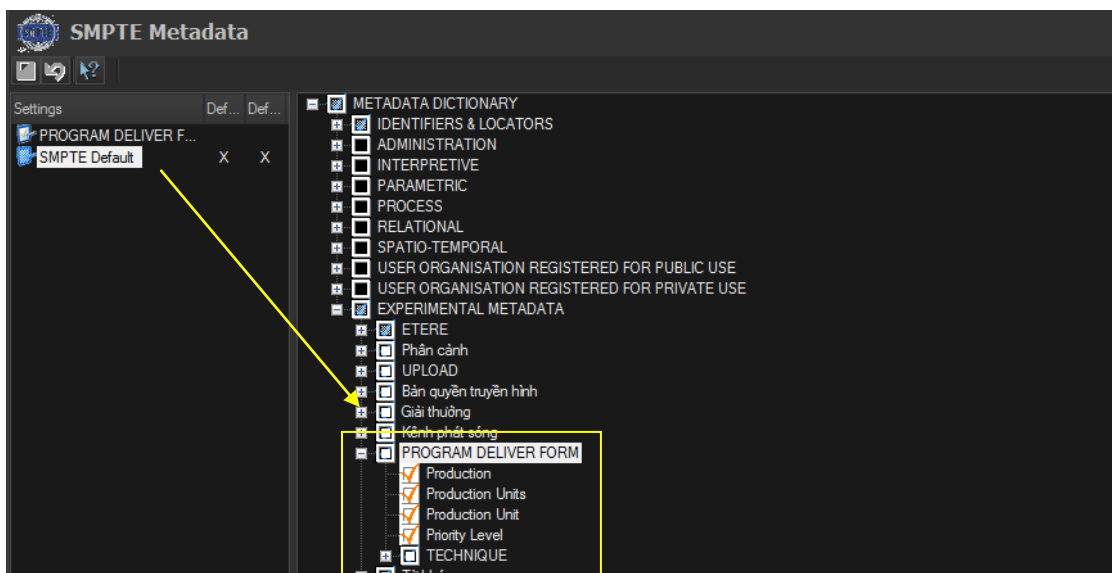
The **Document Management (Do.Ma.)** feature is a big deal for many enterprises especially when the amount of documents raises the cost of ownership to high levels. Reducing paper documents and cataloguing by digitizing and saving in a SQL database, allows an integrated enterprise information system. Information is easily available to the several production sectors, and they may be found in a very simple and efficient way by anyone looking for them:



Etere Document Management allows associating files to one "virtual document" to refer a group of documents to a user. A "virtual document" is a container that collects several documents, so you can associate a group of physical documents to a unique container, moreover the same document may be associated to several containers. Containers are connected to digital objects (e.g. contract scheduling details, scheduled events, personal data, account invoices, existing assets, receipt faxes, etc.), either acquired by a scanner or directly inserted, which will be stored into in the Etere's SQL database.

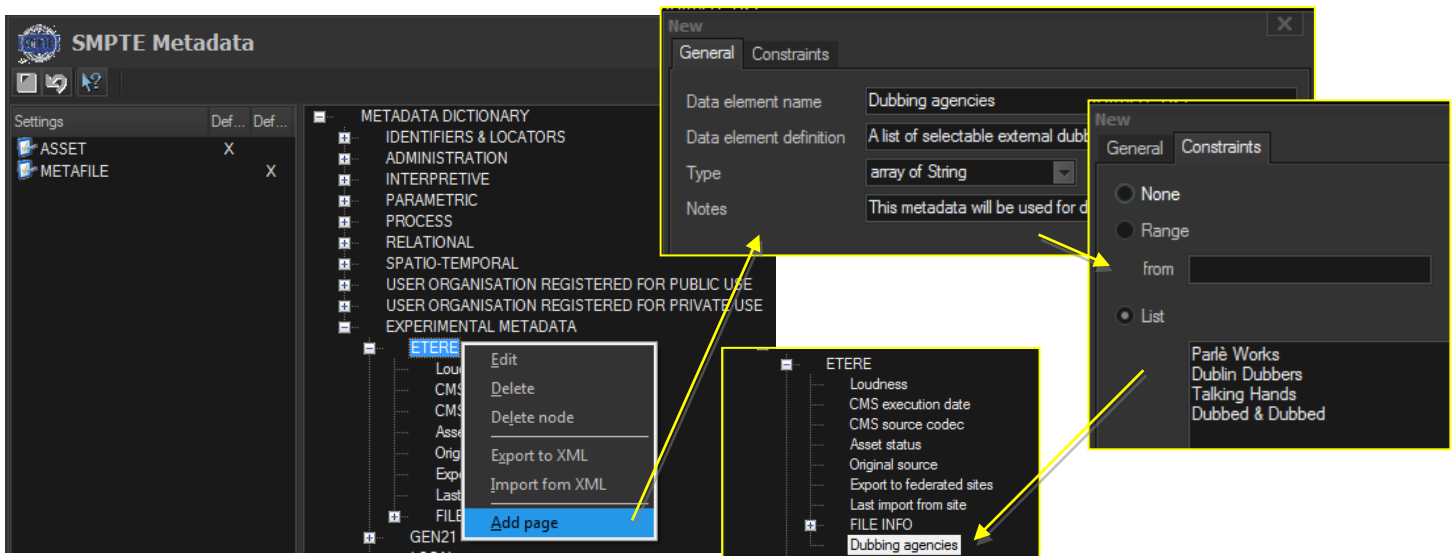
▼ 4.6. Metadata Cataloguing

SMPTE Metadata is a key part of the media management, that's why Etere provides a dedicated module for defining eventually useful metadata (e.g. 'technical comments', 'descriptive names', 'intellectual rights') and store them into a robust SMPTE dictionary:



▼ 4.6.1. Custom definition

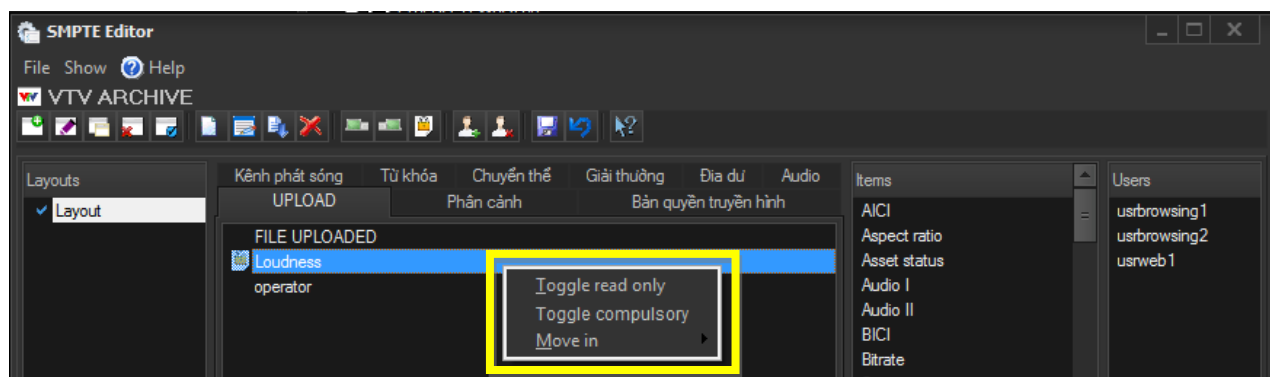
The metadata elements comprised in the media management can be freely configured, for example, adding custom metadata:



As shown above, metadata fields are grouped by tabs which form part of a master layout, said layout can be enabled only for a specific set of users.

▼ 4.6.2. Read-only and compulsory fields

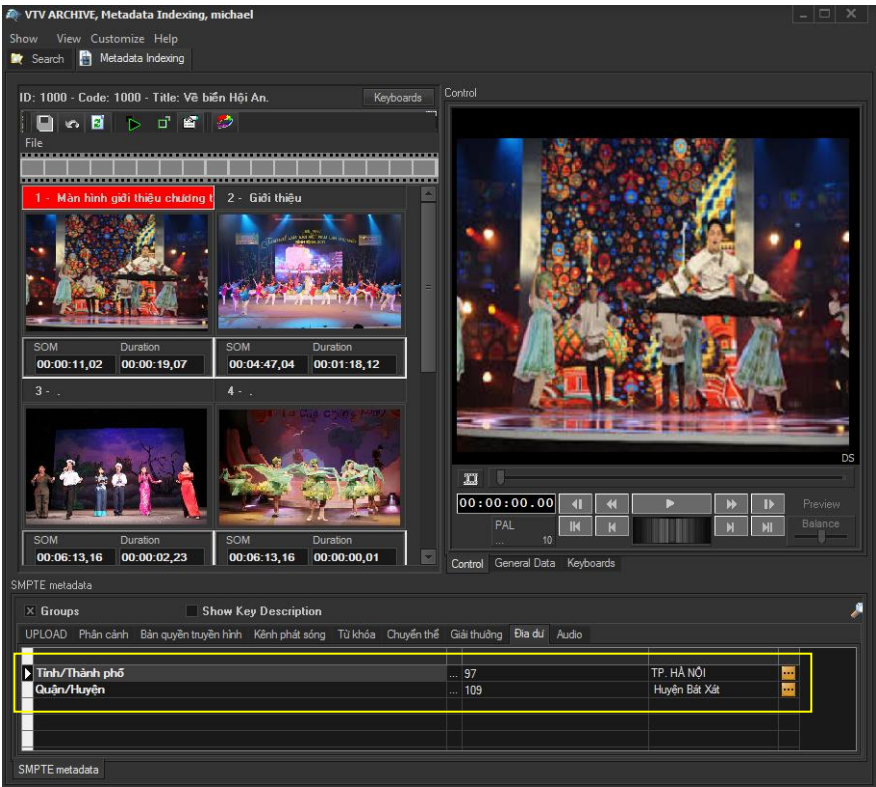
Etere allows administrators configuring metadata fields as either:



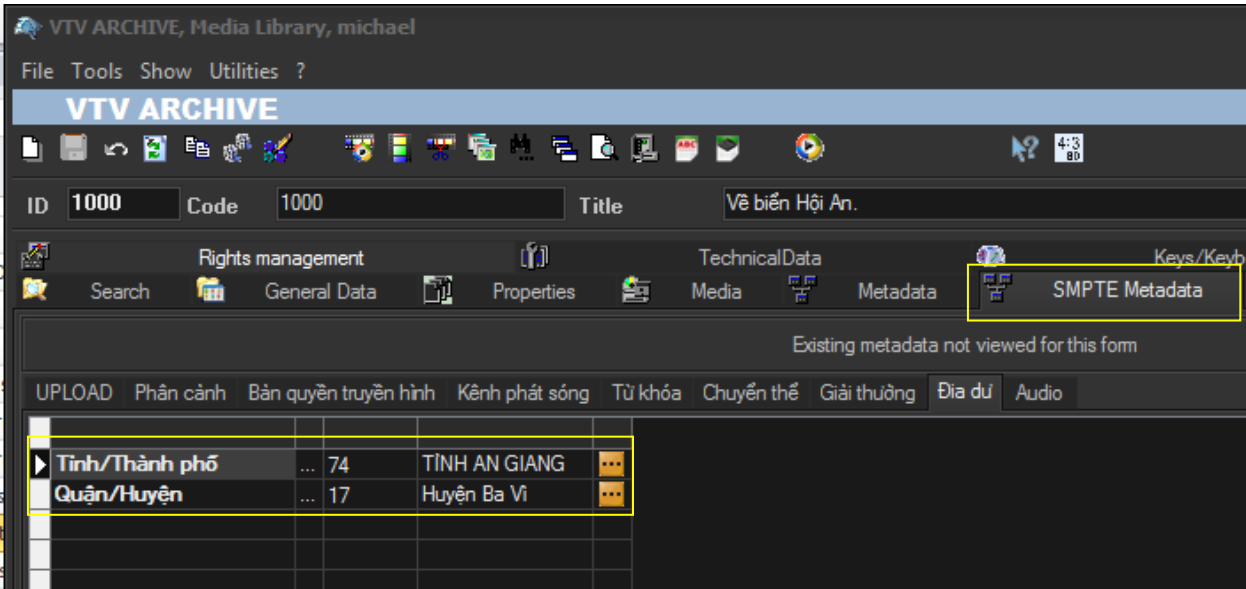
- **Read-only:** Selected users will be enabled to read but not modify the metadata
- **Compulsory:** Selected users will be forced to compile the metadata

▼ 4.6.3. Metadata insertion

Etere enables search, browse and cataloguing of rich media, a very intuitive interface establishes a bridge between the ingest department and the production department, allowing low-res proxy browsing over the network (contents to be browsed simultaneously from various workstations):



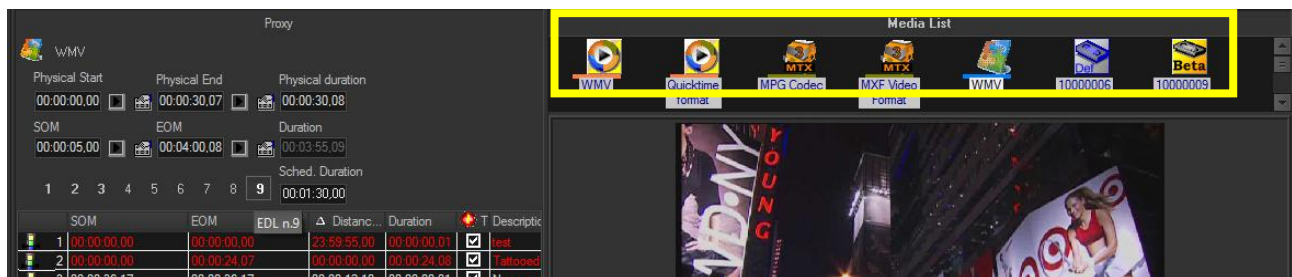
In Etere, all assets contain user-defined SMPTE metadata fields, these fields can be either manually compiled or automatically compiled (retrieved from specific asset properties):



▼ 4.7. Multi-level storage hierarchy

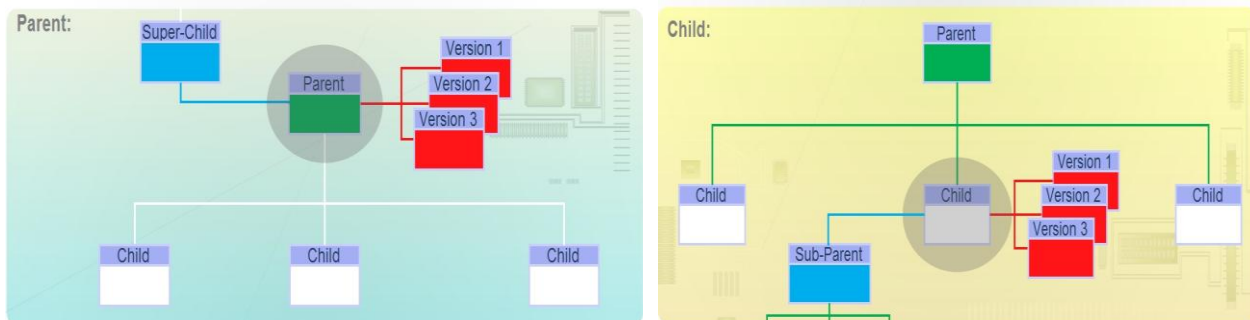
Etere systems improves the media management by introducing a **multi-level storage management** consisting in the use of different storage levels based on the frequency of use of the files stored on them. For example, data files which are frequently used will be stored on video servers (i.e. online servers) whereas those which are not used for a certain period of time (e.g. typically a few months) will be eventually archived in tapes (or any other long-term storage mean) and then automatically restored -to video servers- every time they are required by the broadcast playlist.

Etere offers a hierarchical storage management of media content, it allows organizing in user-specific levels an unlimited number of content versions with different access times (e.g. video servers, near-line servers, archive servers); all levels are available to operators under a user-friendly interface:



▼ 4.8. Multi-version management

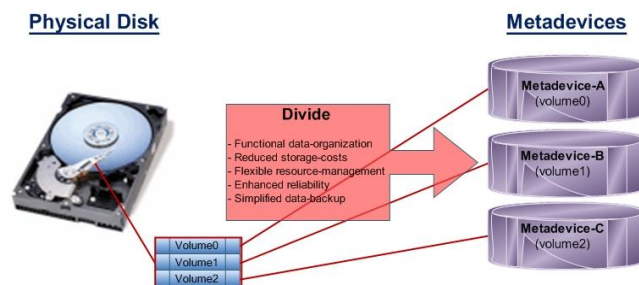
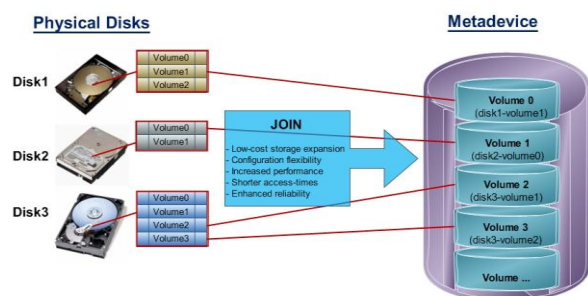
Assets (i.e. media holders) can be organized –along with their related information- under a hierarchical structure based on Parent-Children relationships, thus allowing, for example, handling different versions of a same asset and all the assets derived from them:



▼ 4.9. Multi-storage management

Etere reduce the complexity of managing storage devices by arranging physical storage devices present across the system into metadevices (logical devices), the use of metadevices improve the overall media management by offering the following features:

- Automated management via workflow of logical devices including archiving, restoring, transcoding, etc.,
- Monitored storage space owing to the set of restrictions,
- Increased storage and better performance since metadevices acts as a virtual device representing several logical disks or disk systems:



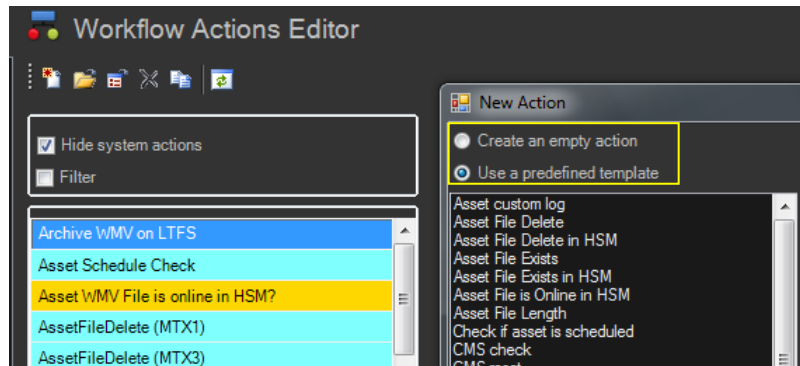
▼ 4.10. Workflow management

Etere's solution features an integrated and professional approach based on a workflow management to optimize the station's entire broadcasting system, reduce operating costs and facilitate overall process control. **Etere Workflow** permits modules to for example, seek confirmation for sensitive process, follow specific rules, enhance the efficiency and reliability of process, and manage multiple workflows to perform different tasks simultaneously and independently

A comprehensive and user-friendly workspace allows creating suitable workflows based on custom actions just by dragging and dropping the necessary elements into it. All workflows can be customized to fit the real needs of the station and thus give complete control over the overall system management which offers:

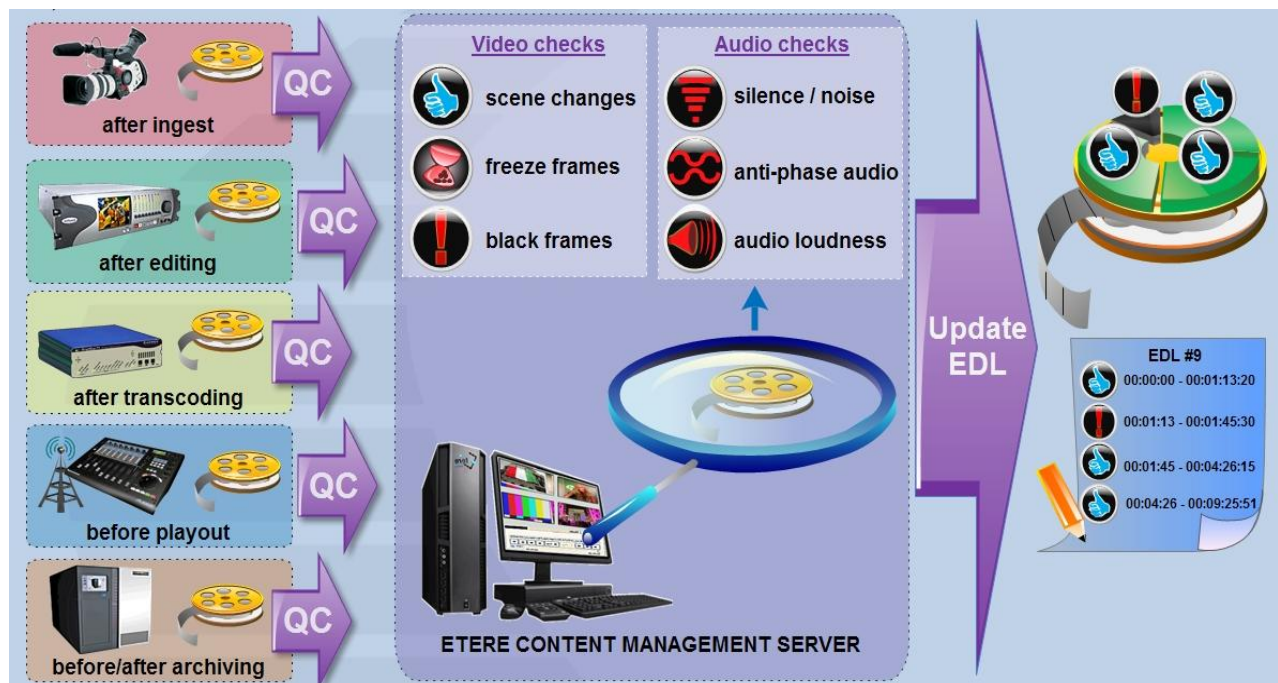
- Clear definition of each complex step of the broadcasting process,
- Visual representation of each step mapped out on a PC not in a paper document,
- Set of instructions and authorizations that must be followed in order to move forward,
- Complete log of all steps carried out, operations denied etc.

Etere provides a wide range of templates for creating workflow actions regarding the most common file-based media operations, allowing customizing them and also using completely user-defined actions:

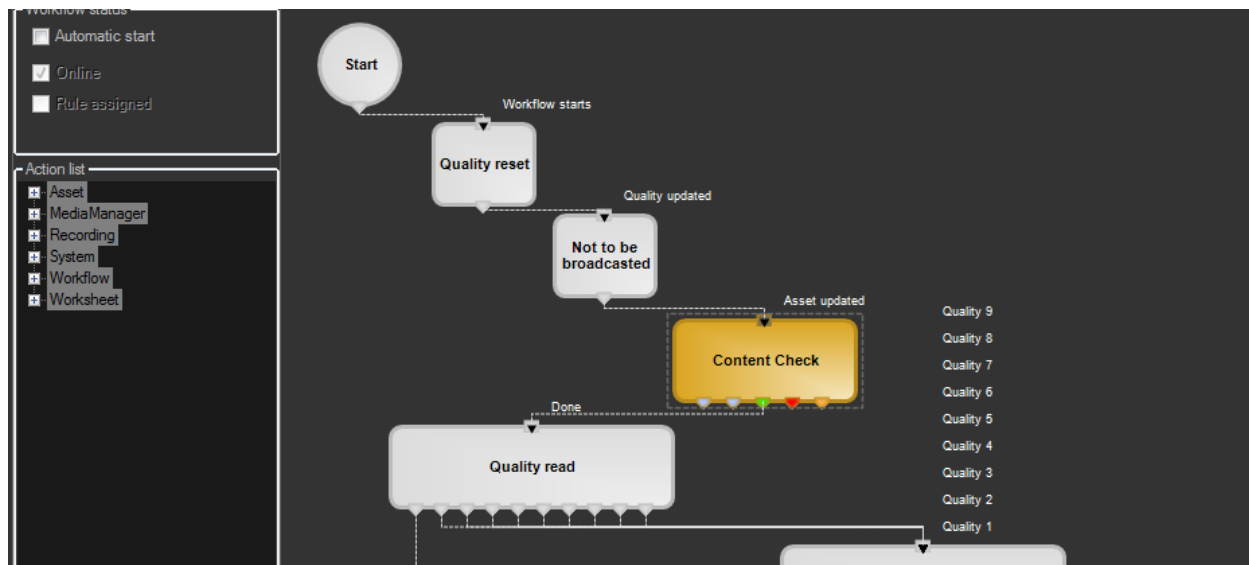


▼ 4.10.1. Content check

Etere CMS, which stands for Content Management Server, an integrated file-based module for performing Quality Controls (QC) via workflow. Etere CMS is the best solution for checking audio/video either prior (e.g. playout, repurpose, archiving) or after (e.g. encoding, ingest, editing, transcoding, archiving) a media operation.



CMS will speed up, automate and streamline the operational efficiency of file-based quality controls performed via workflow across the entire content life cycle.



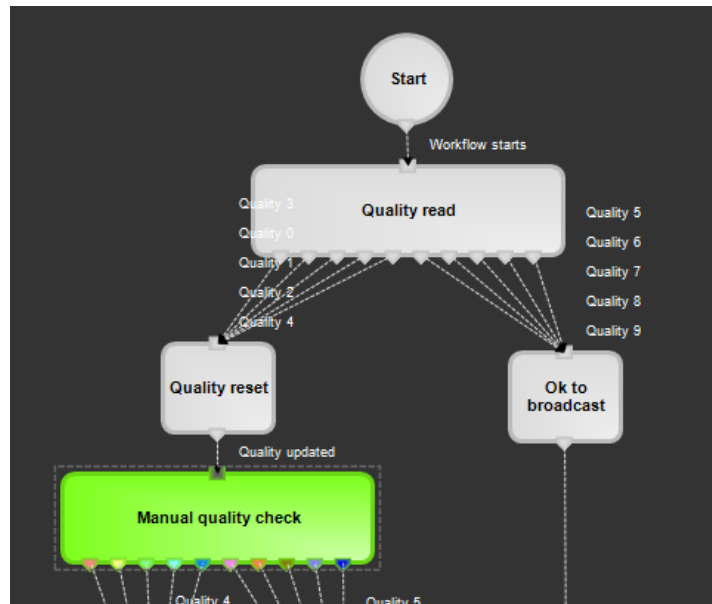
CMS is based on a workflow action which, once included into a workflow that will automatically analyze the asset's proxy video to detect and log (into its EDL) the following audio/video issues:

KEY QC FEATURES

- **Scene changes:** Video stream segment containing brightness differences between consecutive frames.
- **Black frames:** Video stream segment containing black frames and an audio volume lower than a reference level.
- **Freeze frames:** Video stream segment containing a single frame image repeated -as a frozen like a snapshot- for a period of time.
- **Audio silence:** Video stream segment containing silent frames (i.e. frames matching a certain silent audio level and a black video level).
- **Audio level:** Video stream segment presenting "noisy audio signals" which are greater than a given maximum threshold.
- **Anti-phase audio:** Video stream segment containing audio waves with "anti-phase signals", that is, opposite channels which mutually cancel each other out.
- **Audio loudness:** Measurement performed based on the ITU-R BS.1770-2 loudness metering algorithm widely used as loudness-compliant standard.

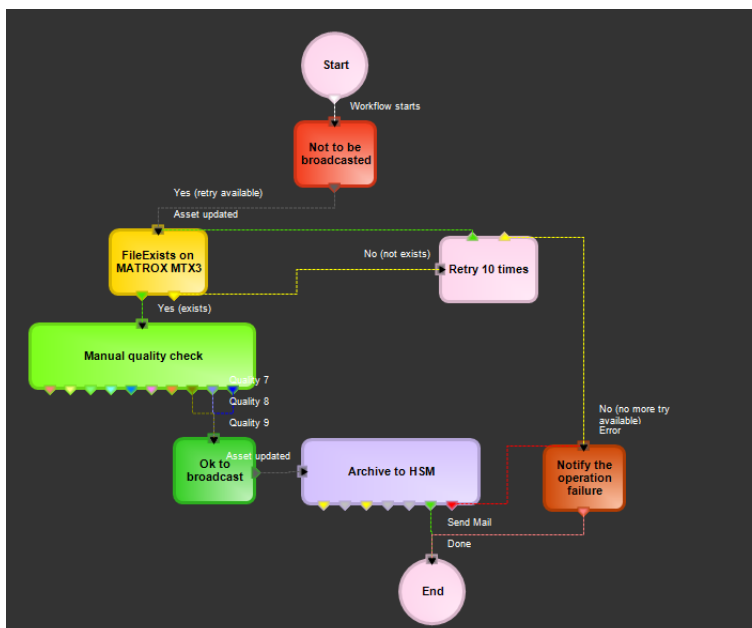
▼ 4.10.2. Quality check

An Etere quality check workflow is able to automatically ask operators to assign a quality value to a certain asset(s) after browsing its video content:



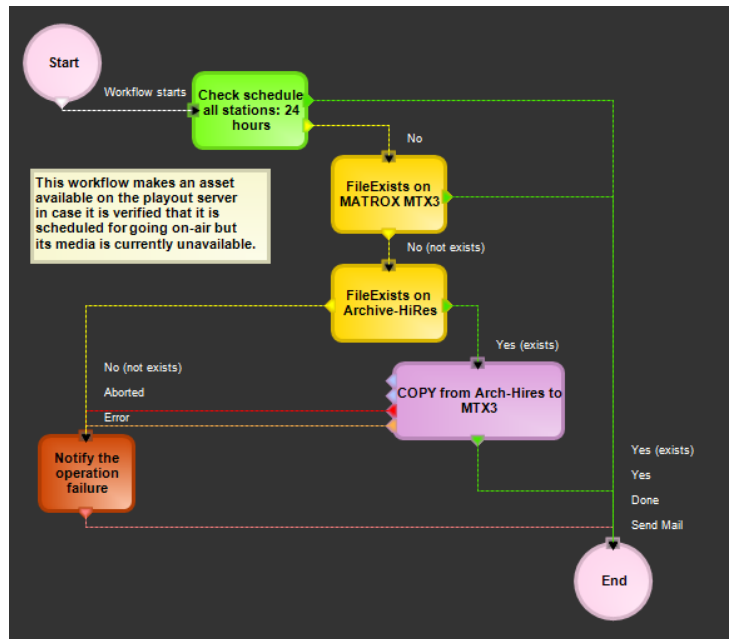
▼ 4.10.3. Archive

Etere allows you to design a workflow for archiving your assets on LTO tapes, including a quality and content check, a proxy copy generation and a final email indicating the result of the process:



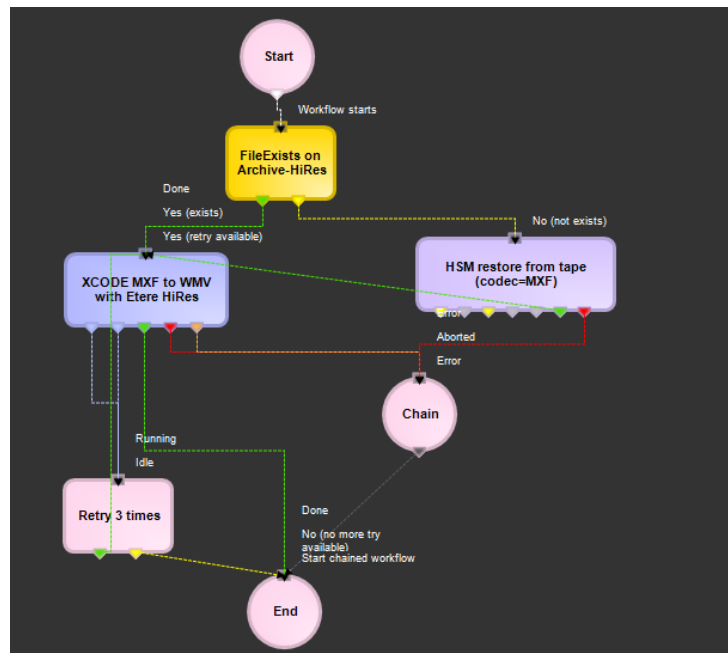
▼ 4.10.4. Restore

Create a workflow to automatically restore any scheduled asset for its delivery by searching for them amongst a group of devices arranged on basis of their priority:



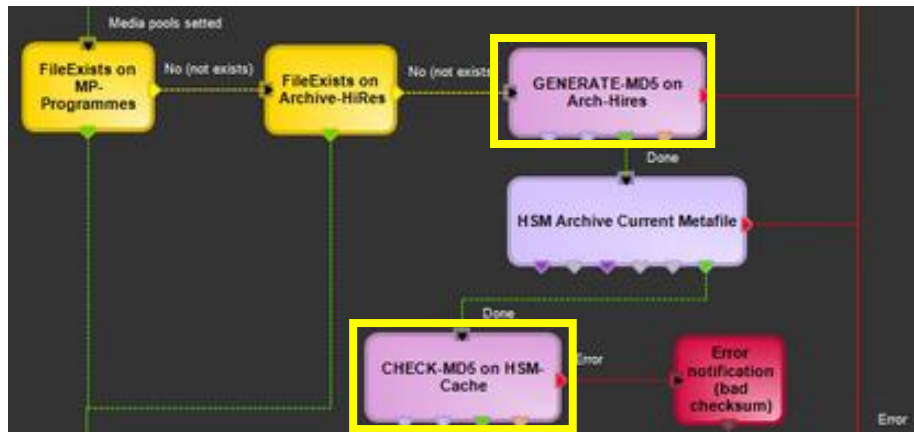
▼ 4.10.5. Transcoding

Etere's integration with Rhonet's Carbon Coder software handles a wide array of critical operations including format conversions, workflow operations that can be launched for example, immediately after a content capture:



▼ 4.10.6. MD5 checksum

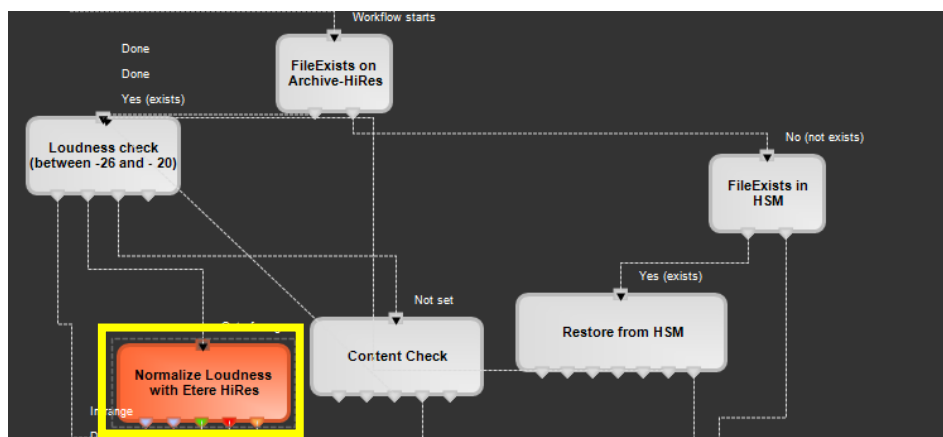
Etere offers an enterprise control of video files integrity; it keeps a log of the hash md5 of video files such in a way that it is possible to verify at any time if they have been modified after their approval. All video files registered on the Etere's database can be verified through an md5 checksum, this control is performed via workflow, each time that a video file is moved from one device to another, its initial hash md5 is calculated to allow a future checking:



The editor allows creating custom workflows to either generate or check the MD5 hash of files.

▼ 4.10.7. Audio normalization

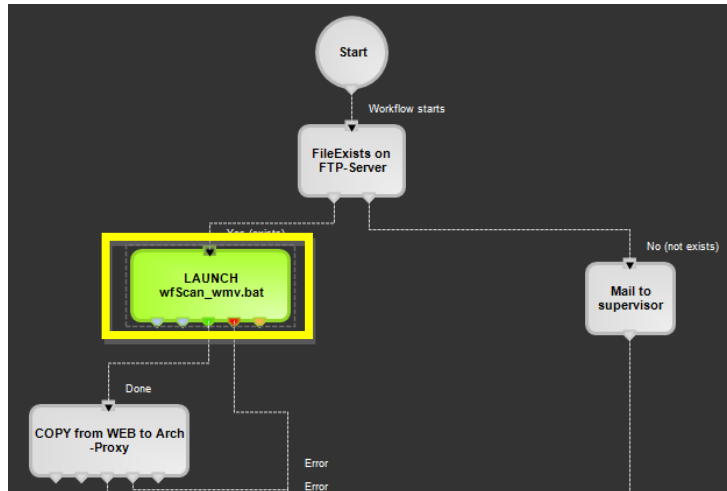
Etere provides a file-based loudness control, allowing stations not only to check the loudness level of media contents but also to normalize them to meet specific limitations.



As shown in the sample above, “loudness normalization” workflows can be launched automatically for specific assets, for example, after their ingestion or tapeless reception (i.e. web upload).

▼ 4.10.8. Antivirus scan

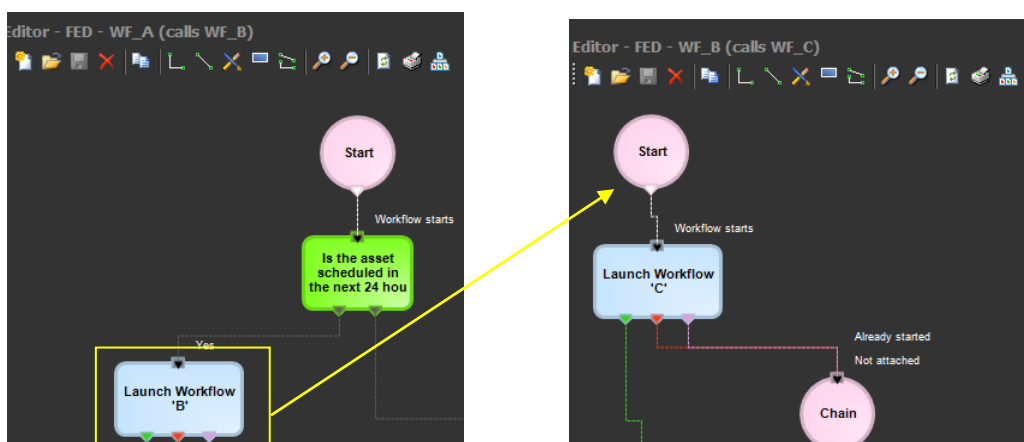
Etere includes the ability of integrating antivirus protection within workflows, allowing stations to improve their media workflows (e.g. post-upload) by giving them the capability of automatically scanning transferred files for virus and end their work with a flourish.



As shown in above, the automatic virus scan capability can be easily integrated within any workflow at any stage just by inserting an action block configured to perform the virus checking; stations can insert them, for example, within the default workflow to be launched after an EtereWeb upload.

▼ 4.10.9. Integration between workflows

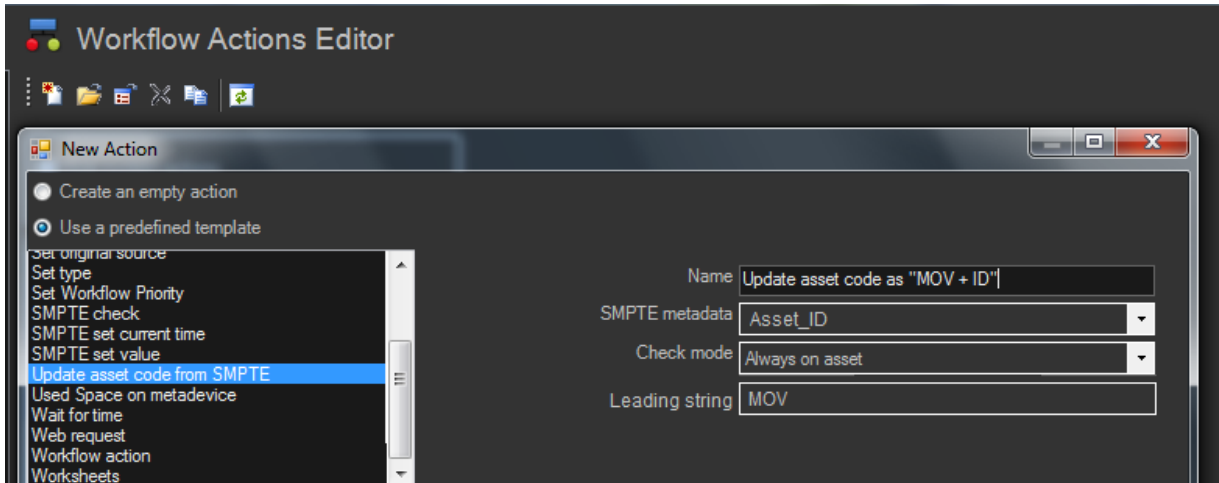
Etere allows calling workflows from others just by inserting an action that can perform a specific task (i.e.: attach, attach and start, start, abort, reset, restart, detach, etc.) on a certain workflow:



Etere maintains the system consistency by avoiding loops between workflows (a message is displayed indicating action incompatibilities between workflows). For instance, if 'workflow A' calls 'workflow B' and the 'workflow B' calls 'workflow C', the 'workflow C' will not be able to call the 'Workflow A'.

▼ 4.10.10. Batch code updating

A workflow action allows to automatically change the code of assets based on a specific metadata and also a fixed leading string, for instance:



For instance, executing the above action for all “movies” assets will change their codes into: **MOV145246** , **MOV267634** , **MOV49527** , **MOV53495** , etc.

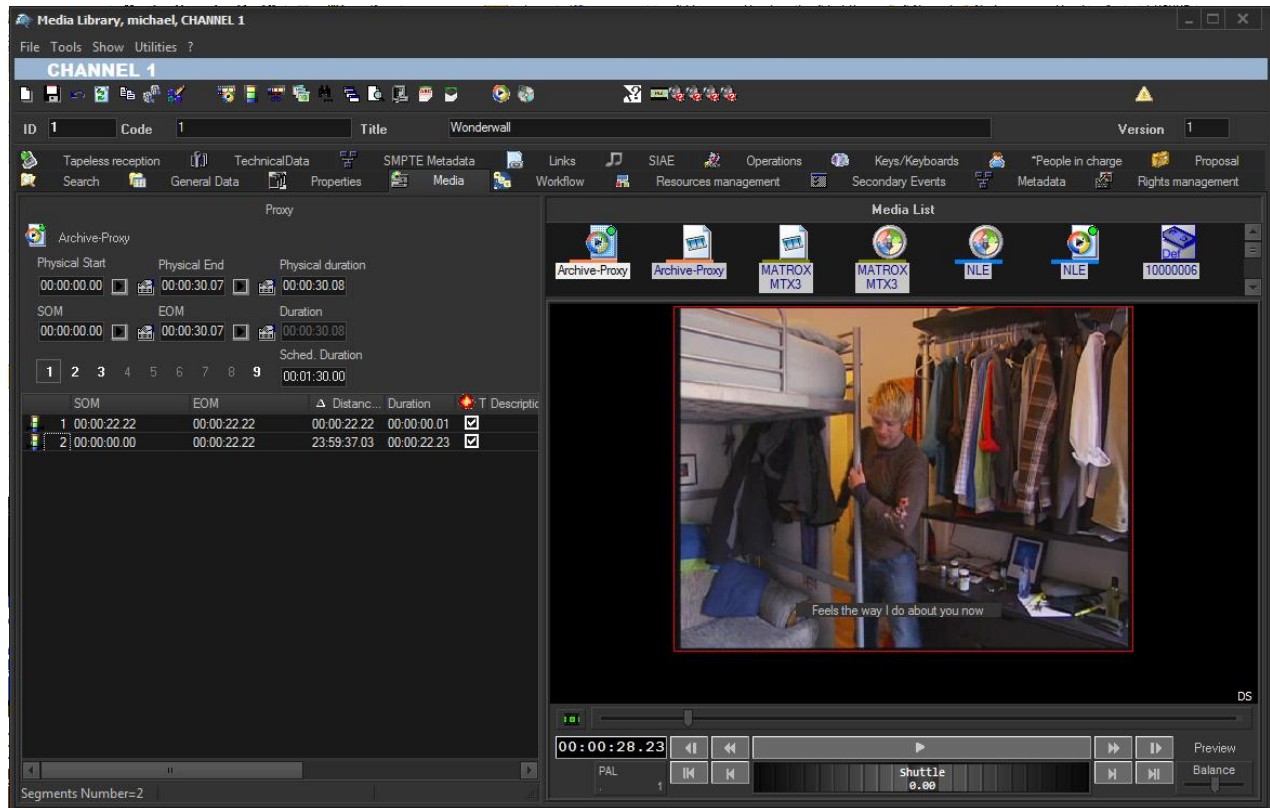
▼ 4.10.11. External synchronization

A workflow action enables Etere to **automatically update** external system (e.g. Harris, Gen21, etc.) every time an asset metadata (e.g. EDL, title, type, etc.) is changed in the Etere Media Library, thus consolidating the tight integration between Etere and existing systems while preventing wasteful insertions and data discrepancies:

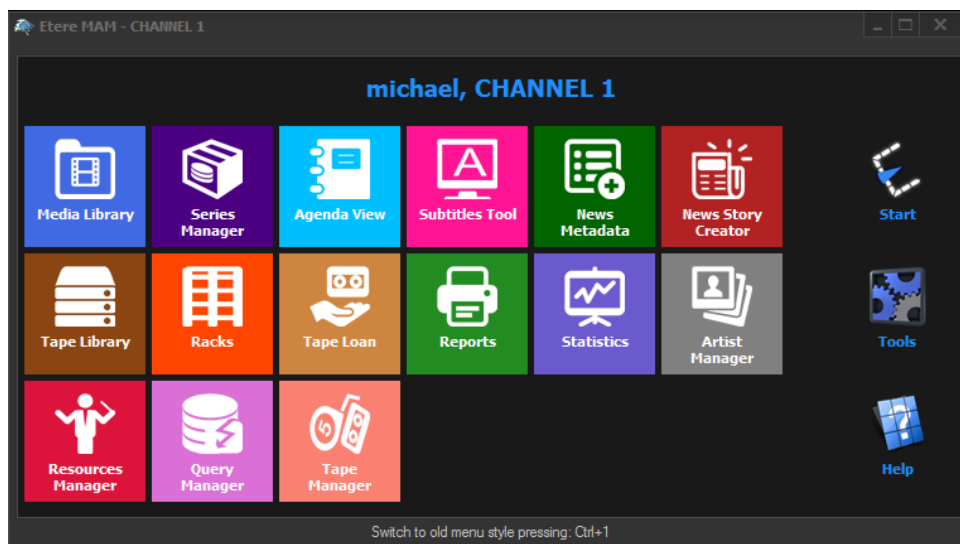
Default workflows			
Operation	Workflow	*All stations	*If workflow is running
After a streaming ingest	CC - Audio and Logo setup		*Ask for confirmation
After a Tapeless upload	CC - WebRpOrganize		*Ask for confirmation
After a video file import	CC - QualitySet (Manual)	*	*Force workflow reset
After an Etereweb upload	CC - WebRpOrganize	*	*Ask for confirmation
After an ingest operation	MM - XCOD MXF to WMV		*Ask for confirmation
Asset is modified	CC - Update Harris	*	*Operation allowed
Conforming	MM - CONFORMING	*	*Operation allowed

▼ 4.11. Look and feel

ETERE's GUI experience gives a professional interface with less distractions and more focus; high contrast helps working on any light condition from dark master control to enlightened editing rooms:



Moreover, main menus now follow the Windows 8 GUI to be simple, intuitive and easy to use:



▼ 5. BENEFITS

This paper has described how the development and deployment of an Etere-based “**Full Enterprise Wide Media Asset Management System**” able to provide the station with a large number of operational benefits and advantages derived from the correct use of ultimate media management technology. Etere will entirely manage the digital contents of the station, from acquisition to delivery, providing the following key features:

- **Reliability**, all workflow-based operations automatically generates fully customizable logs to track both the overall and individual functioning of the entire system
- **Efficiency**, reduced need for repetitive manual operations, allowing to define them in advance and then include them in the ingest workflow, thus increasing productivity
- **Flexibility**, on meeting all requirements by proving a versatile media management system tightly integrated with all capturing and storage devices present on the station
- **Accuracy**, during the whole media management process, reducing the risk of mistakes when retrieving data since all archived contents are continuously checked
- **Scalability**, for increasing the number of capturing channels and devices without altering the system workflow complexity, thus minimizing operational overheads and reducing overall costs
- **Integration**, for non-linear editing systems to access the digital archive directly and efficiently through a proper production environment, making use of the highest security standards

Etere: a consistent system!

Etere is an international leader in the media market. Etere develops and distributes a wide range of high technology software for broadcasting and media businesses. With more than 24 years of experience, Etere provides powerful, flexible, cost-effective, high-performance, end-to-end media solutions. Etere is the only company worldwide that can offer you a solution to all your media needs in one single package.

Etere is the only solution 100% workflow based for all broadcast and media environments. It's a common framework where there is real-time sharing of all the data among several applications to manage all media business requirements. The workflow approach allows a fully customized design with edge performances.

From its headquarters in Tolentino, Italy, Etere guarantees the best after-sales support service on the market with engineers ready to give professional assistance 24 hours a day, 7 days a week. The service includes voice, email, VPN and VoIP with unlimited calls and connection time, and a pro-active system to help diagnose problems before they appear.

Contact Information:

Etere Srl
Via Etere 1
62029 Tolentino (MC) – Italy
Telephone: +39 0733 9564
Email: marketing@etere.eu
Website: www.etere.eu

