

***Etere***  
a consistent system

**MEDIACORP PROJECT:**

An integrated end-to-end file-based HD workflow

***MEDIA*≡*CORP***

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## 1. INTRODUCTION

Media Corporation of Singapore, better known as MediaCorp, is Singapore's leading media company with the most complete range of platforms, spanning television, radio, newspapers, magazines, movies, digital and out-of-home media. At present, MediaCorp runs 7 television channels and 14 radio channels, making it the largest media broadcaster and provider in Singapore, and the only terrestrial TV broadcaster in that city-state, and has over 50 products and brands in four languages (English, Mandarin, Malay and Tamil), reaching out to all adults in Singapore every week.

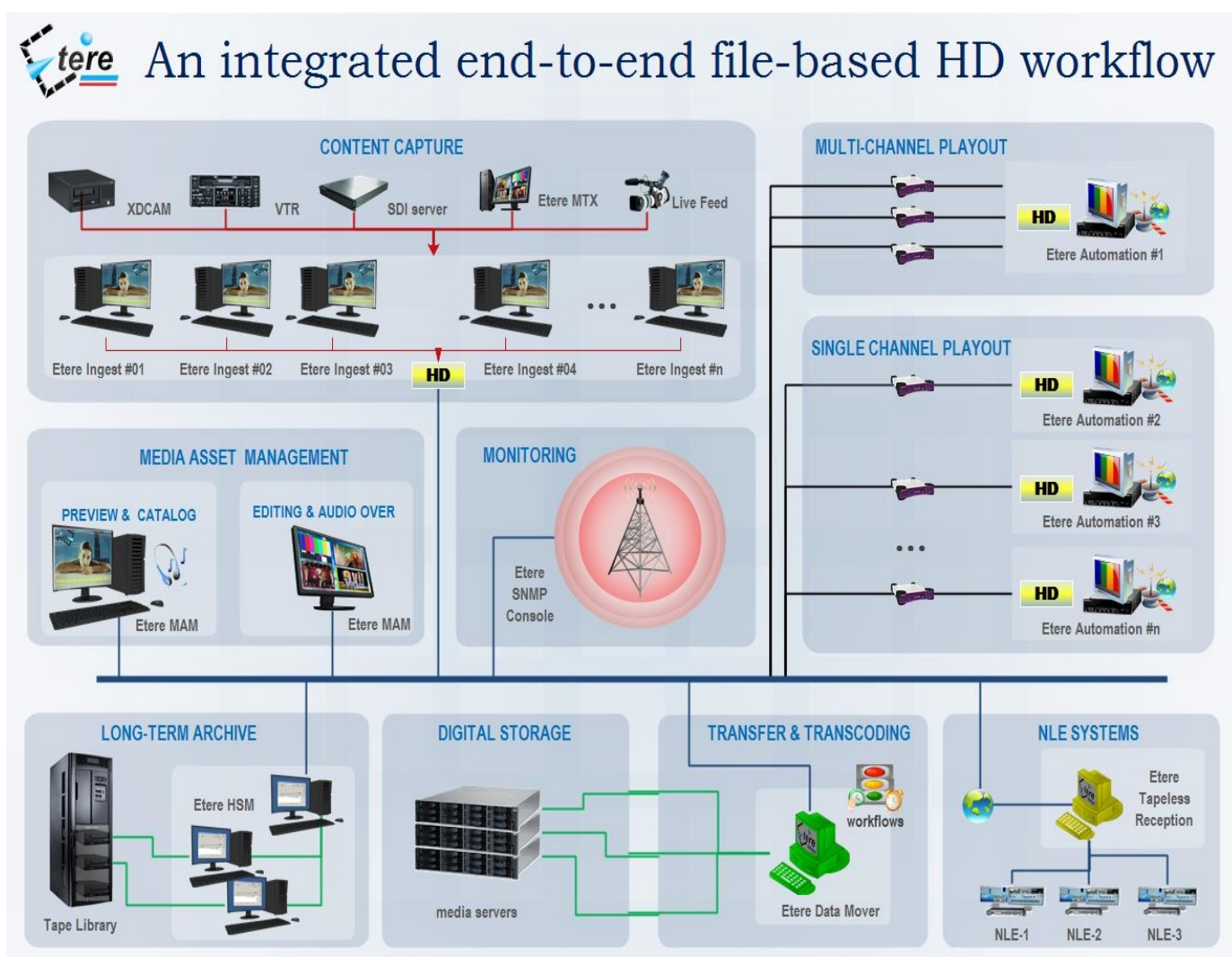
At present, Etere has a strong relationship with MediaCorp, based on years of management of the station channels payout by using an Etere system, a choice that has permitted MediaCorp to achieve an operative efficiency while meeting audience's quality expectations. This time, MediaCorp is planning to move its current system into an end-to-end file-based HD broadcast workflow featuring a Media Asset Management as the core element of the system, this system will be able to digitize video content from post-production facilities and capture it from a centralized module, delivering it subsequently for single and multi-channel payout.

Etere will design an integrated media ingest, archive, management and distribution combining powerful modules with an easy to use interfaces. Etere's solution will permit to straightly connect content captured by Etere Ingest with Etere MAM to view and catalog video assets before delivering them via workflow, in either standard definition or high definition. Etere MAM (Media Asset Management) will be the core of the overall system, providing workflow management, production project management and content management features; thus ensuring a streamlined tapeless environment able to capture, edit, catalog and deliver HD contents, fast and efficiently.

This paper describes how Etere is able to provide not only a world-acknowledged system but a hard-earned expertise on the implementation and maintenance of media asset management systems able to bring access to any file, at anytime and most important, with a the maximum of speed, characteristics that will ensure the improvement of each single broadcasting area with a wide set of cutting edge applications that goes from an accurate contents management to an automatic delivery of contents.

## 2. ETERE SOLUTION: OVERVIEW

Etere's proposed solution aims to implement an "Integrated end-to-end file-based HD workflow", this solution will be based in the distributed architecture of Etere, a key characteristic that will permit not only to tightly integrate the hardware current available in the station but also to support future devices integration. The diagram below illustrates how Etere can take control of the various operations that makes part of the entire station's workflow:



The solution proposed by Etere will provide the station with a rock-solid distributed system able to integrate into a single solution the key features of a Media Asset Management. Additionally, Etere's solution will permit to straightly connect ingest channels with Etere MAM to browse and edit media assets before their delivery.

Etere's solution consist of a system intended to be the core of the global system, providing media archive management and delivery services including instant access and delivery of media files.

Operations related to all contents present in the station are cemented on a file-based workflow framework featuring a wide range of function-specific workflows for ingest, production and playout with additional traffic capabilities.

The modules that Etere will implement across the system are briefly described below:

- **Etere Ingest**, the flexible solution for capturing contents from a wide range of sources,
- **Etere MTX**, the most advanced, tightly integrated and cost-efficient driver to implement a video server based on the ultimate HD/SD Matrox digital video cards,
- **Etere MAM**, the best solution for indexing and editing a huge amount of media assets, it provides tools for an easier metadata insertion and video cut and merge,
- **Etere HSM**, an automatic tape-based storage system for long-term management archive,
- **Etere Media Manager**, the enterprise workflow-based media manager that guarantees timing and effectiveness on media transfers between devices,
- **Etere Automation**, a fault-tolerant system to automate the playout of scheduled contents,
- **Etere Tapeless Reception**, a secure and robust threshold to the station's outside world, a web-based interface that will permit a tight integration with remote facilities, allowing them to deliver contents fast and digitally.

An Etere-based central media management system is able to interface existing sub-systems and NLE systems while maintaining the consistence of its wide set of characteristics that makes of it the right solution for an enterprise management of digital content under a file-based workflow environment.

The station will be mainly provided with the following key features:

- A distributed architecture managed via workflow to avoid any single point of failure,
- Seamless integration with existing and co-existing systems,
- Safe and fully-tracked access to the content archive,
- Enterprise management and transport of media between storage devices,
- Transparent media transferring, the correct media format will be always delivered,
- 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, timecode, 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 (Avid, FCP, etc), including content uploading/downloading,
- Fast and efficient transferring connection between internal –and external- systems,
- Reliable monitoring of the modules and equipment integrated within the global system,

Furthermore, the implementation of an Etere system will allow Editing Systems to access the digital archive directly and efficiently through a proper production environment, making use of the highest security standards.

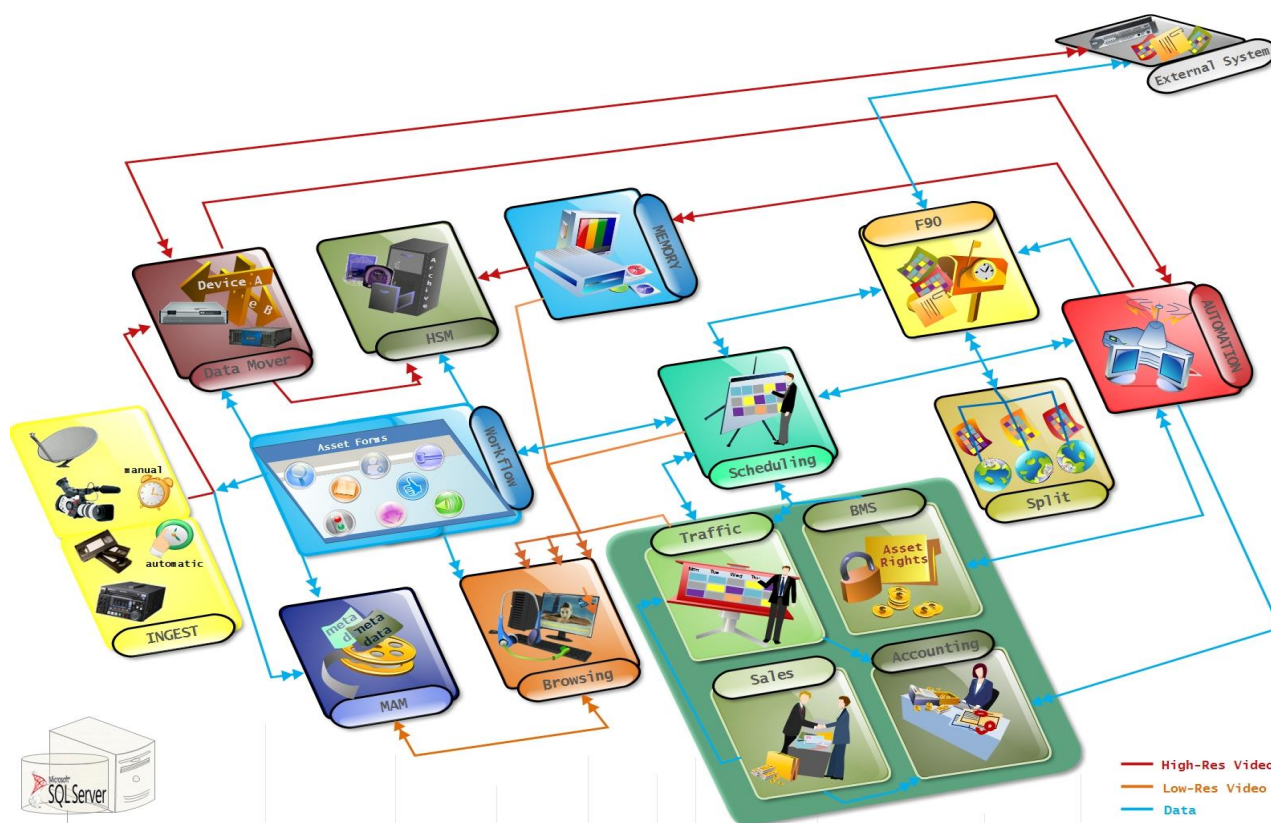


## 3. ETERE SOLUTION: ARCHITECTURE

Etere is based on a distributed architecture which allows different modules to run on different workstations interconnected via a local area network. All system configuration parameters, security roles, user data, and pre-defined rules are stored in a reliable SQL database supporting backup and redundancy operations.

### 3.1 A Distributed System

ETERE is a distributed, modular and fully integrated broadcasting system composed by a set of applications specifically oriented to efficiently perform each complex phase of the broadcasting chain synchronously within the same database environment, being all managed by suitable user-defined workflows that ensure an efficient overall system controlling.

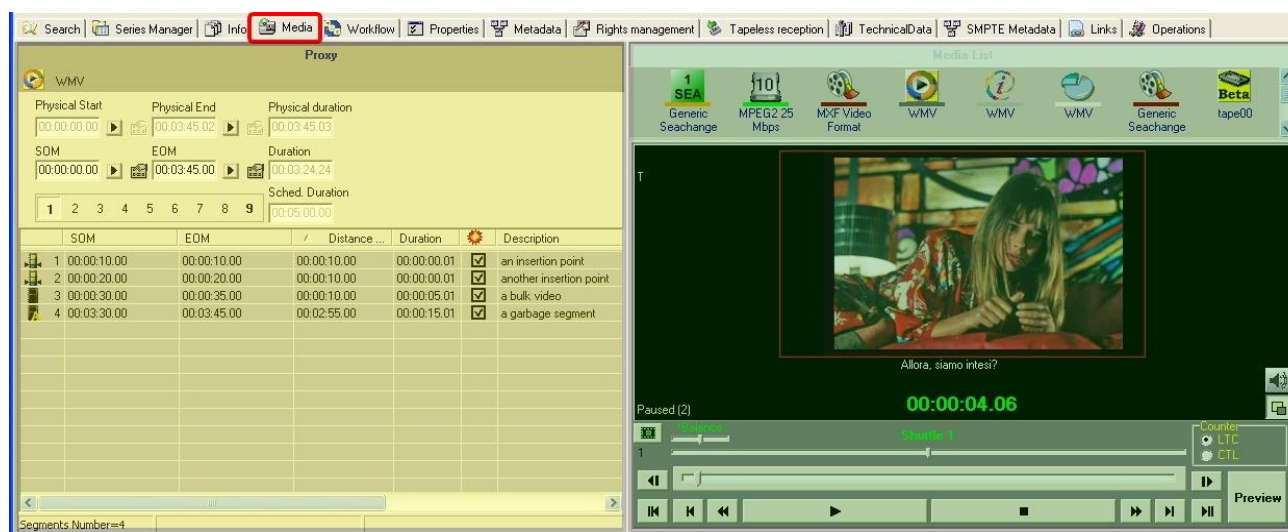


Etere's distributed architecture allows achieving a top-level availability of resources and reliability of operations across the entire broadcast workflow thanks to its redundant capabilities to improve the fault resilience on any hardware or software failure.

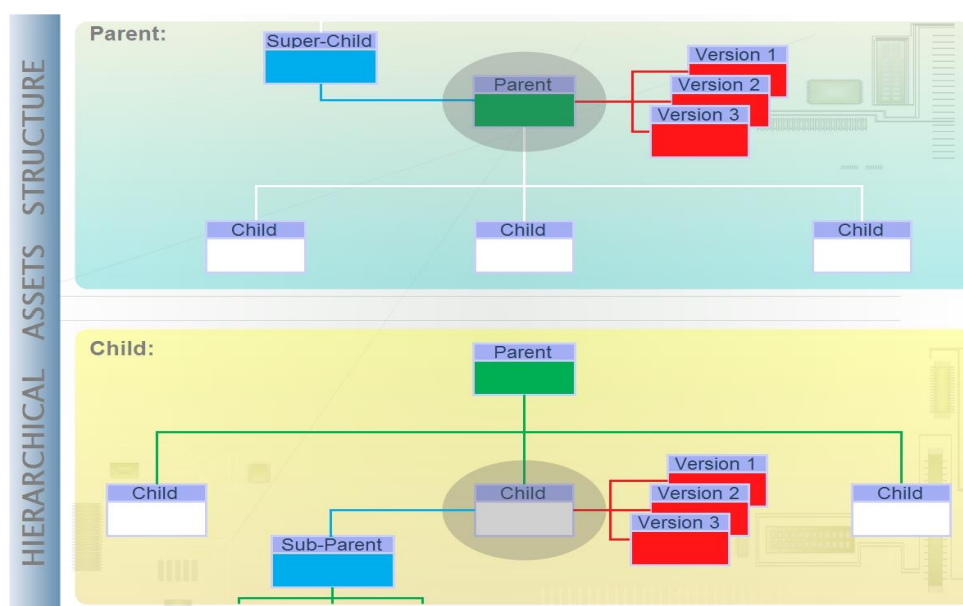


## 3.2 Multi-level File Access Hierarchy

Etere offers a hierarchical storage management by organizing in user-specific access levels an unlimited number of content versions offering 'instant access' (from video servers), 5 minutes access (from NLE) and 15 min access (from archives), being all these levels available to the operator under a simple and user-friendly interface:



Moreover, Etere allows managing assets under a hierarchical assets structure based on Parent-Children relationships, allowing furthermore handling alternative versions of a same asset. Available relationships types are listed below:



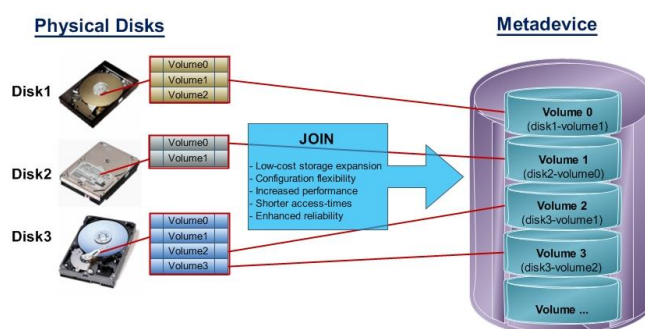
## 4. ETERE SOLUTION: MEDIA FUNCTIONALITIES

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.

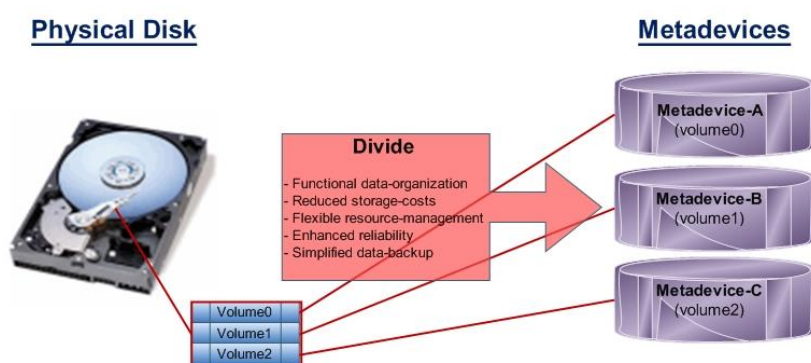
### 4.1 Multiple Storage Management

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:



- Distributed storage according to specific requirements without the need of creating partitions, just associate individual disk volumes to different:

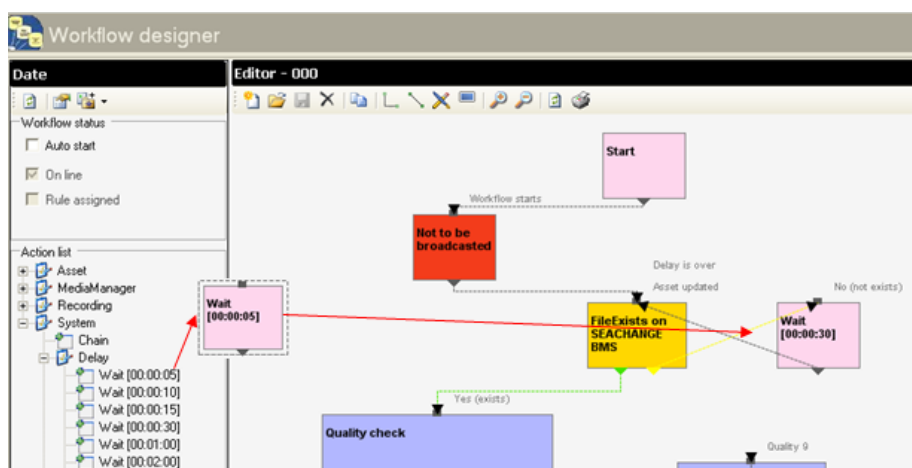


## 4.2 Custom Design Workflow

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:

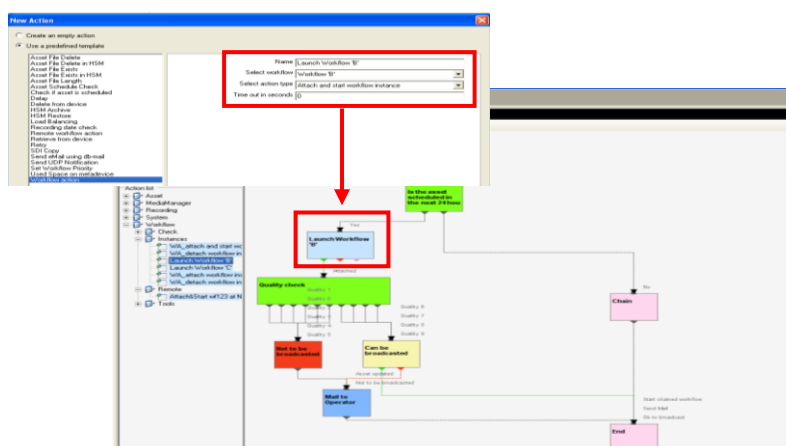
- Clear definition of each complex step of the broadcasting process,
- Visual representation of each step mapped out on a PC not in a paper document,
- Set of instructions and authorizations that must be followed in order to move forward,
- Complete log of all steps carried out, operations denied etc.

A comprehensive and user-friendly workspace allows creating suitable workflows based on custom actions just by dragging and dropping the necessary elements into it:

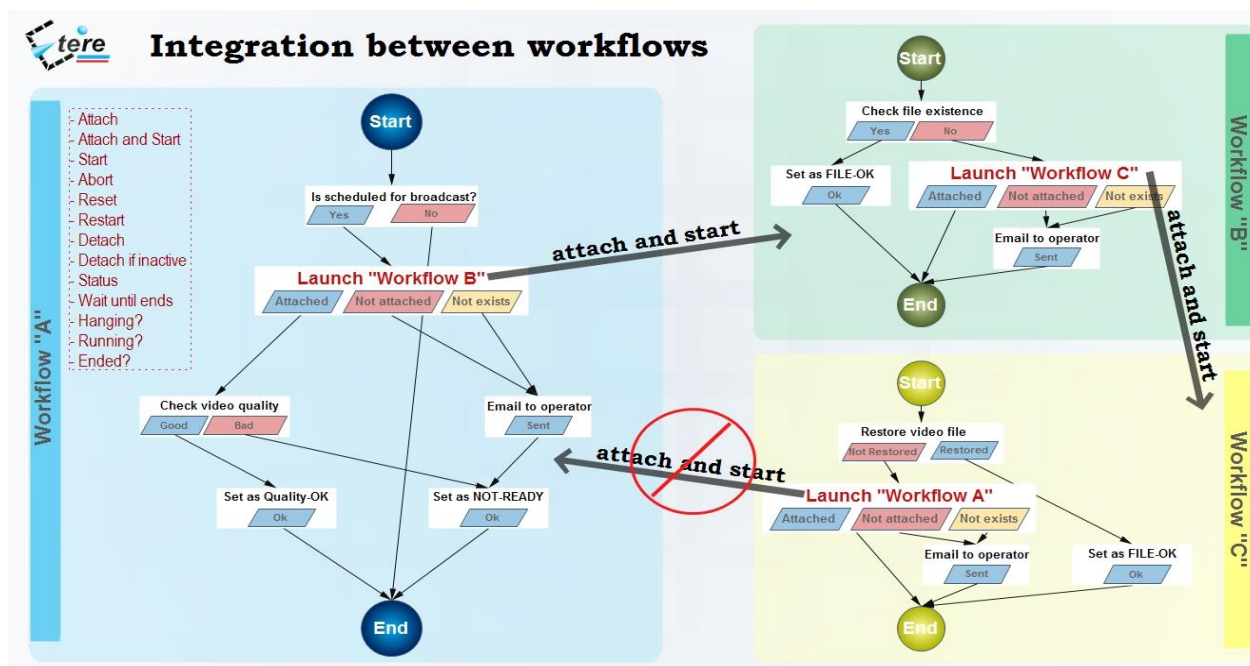


### 4.3 Integration between workflows

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:



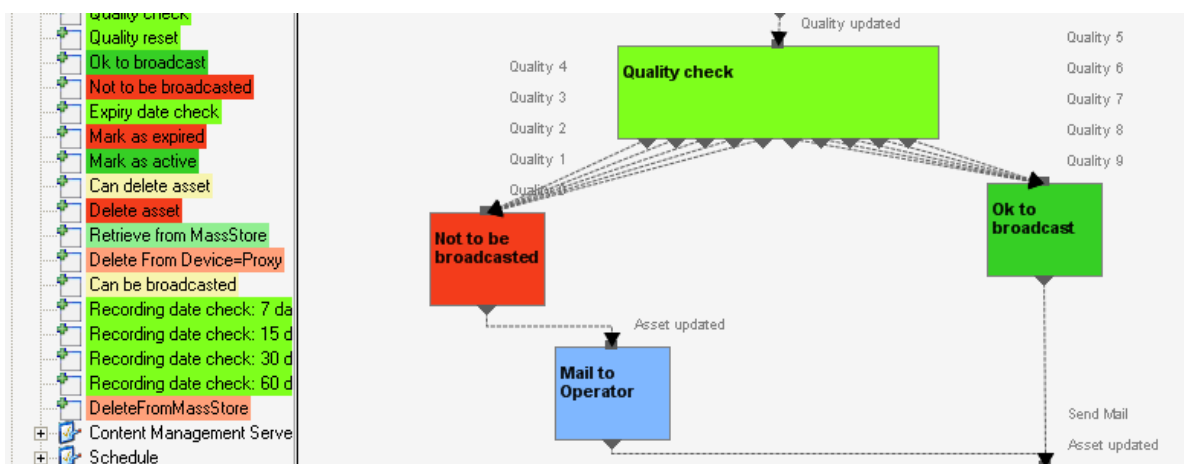
The diagram below illustrates how Etere maintains the system consistency by avoiding loops between workflows (a message is displayed indicating the incompatibility between action and workflow):



As shown above, for example, 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'.

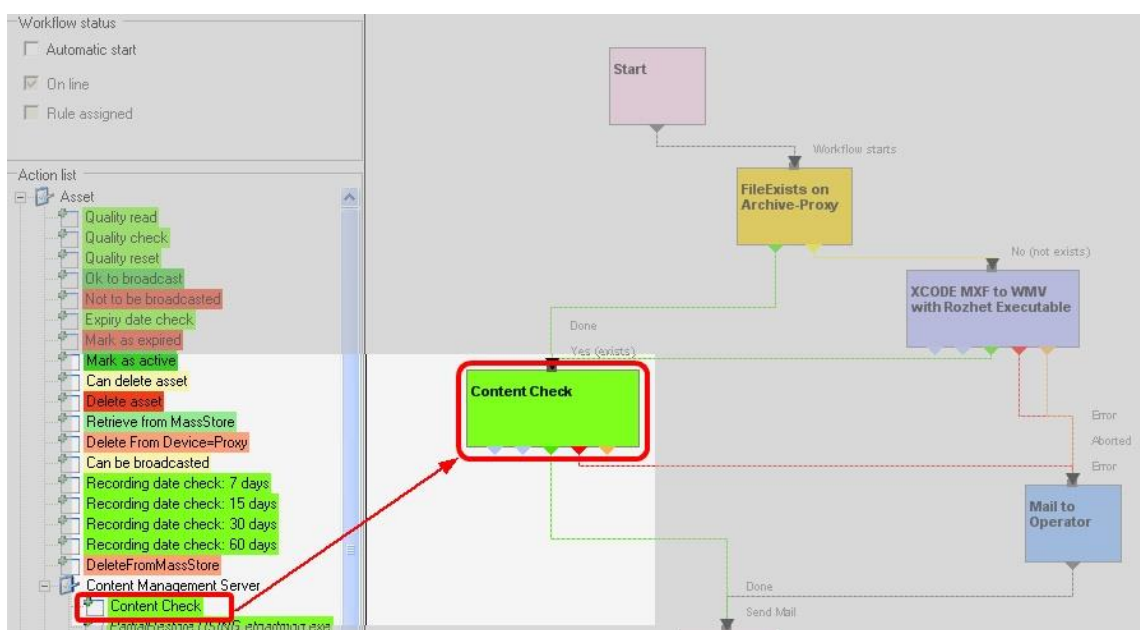
#### 4.4 Video Files Quality check Workflow

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:



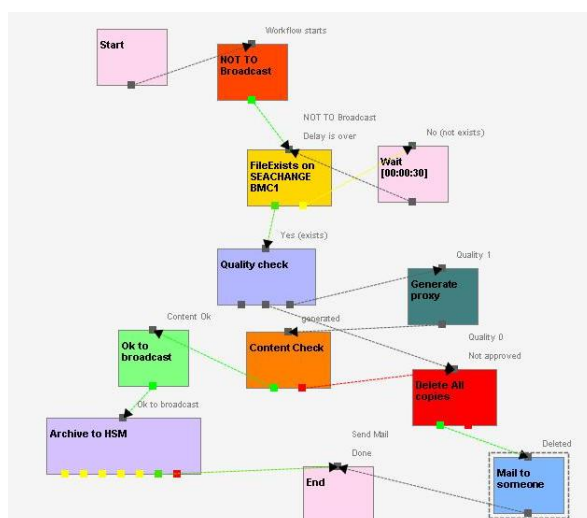
## 4.5 Video Files Content Check via Workflow

Etere counts with a workflow action called content check, that once inserted into a workflow and attached to an asset, searches on its related proxy video file for defective video issues to subsequently mark (into their EDL list) all encountered defective segments including black scenes, scene changes and freeze video:



## 4.6 Video Files Archiving Workflow

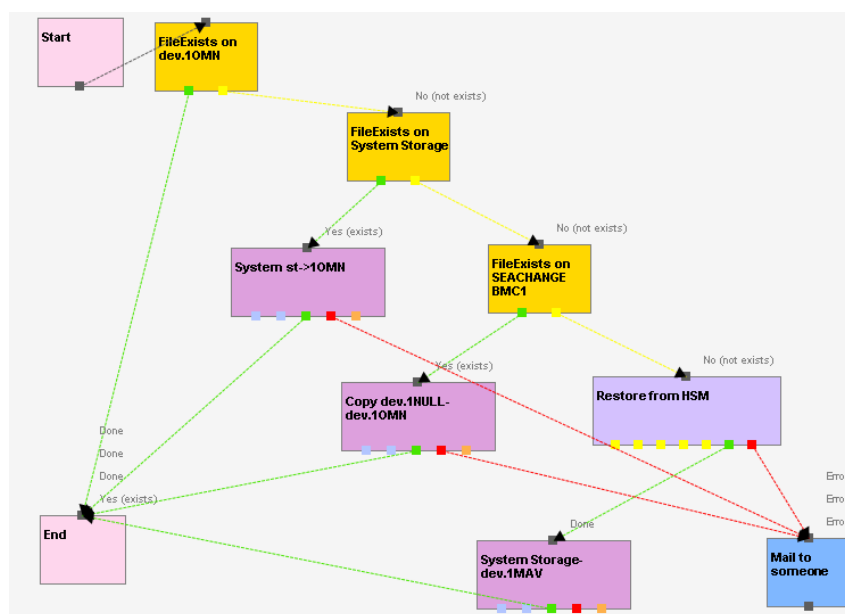
Etere allows you to design a workflow for archiving your assets on LTO tapes, including a quality and content check, a proxy copy generation and a final email indicating the result of the process:





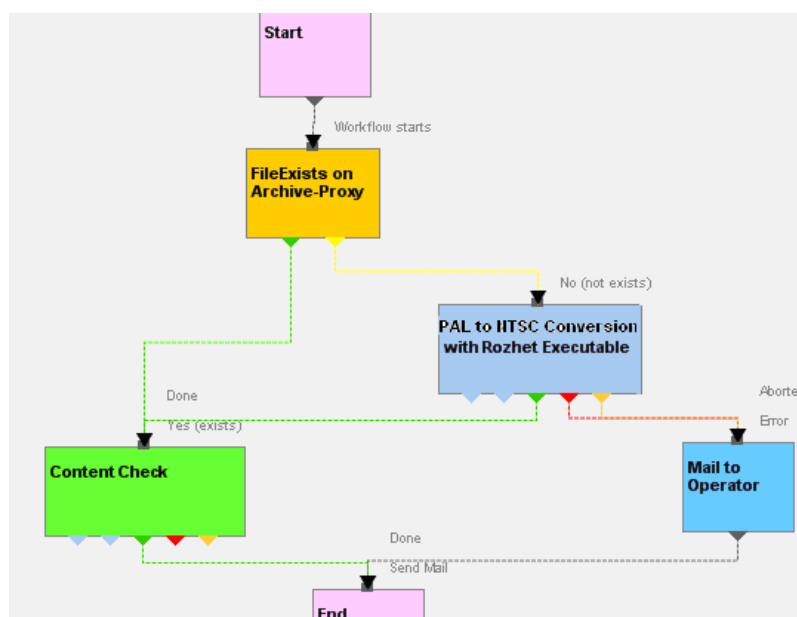
## 4.7 Video Files Restore Workflow

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



## 4.8 Video Files Transcoding

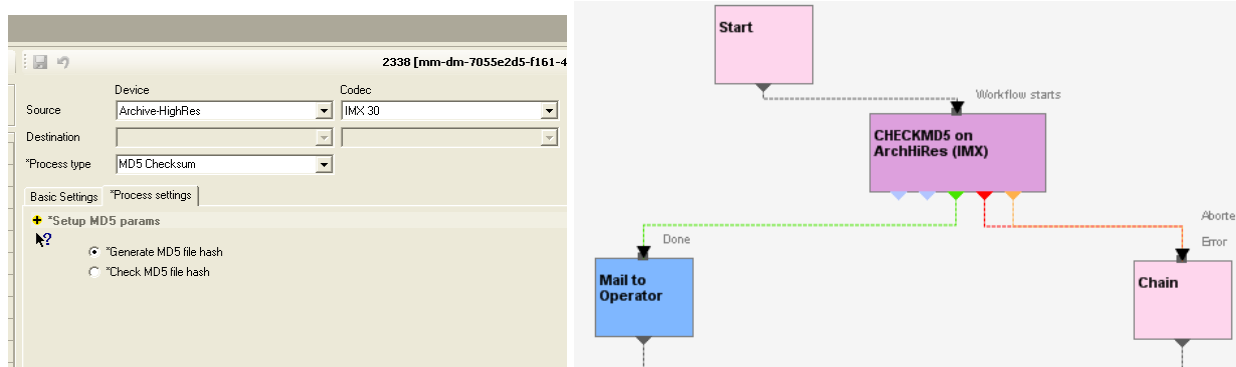
Etere's integration with Rhozet's Carbon Coder software handles a wide array of critical operations including format conversions, workflow operations that can be launched for example, immediately after a content capture:





## 4.9 Video Files Checksum MD5 Verification

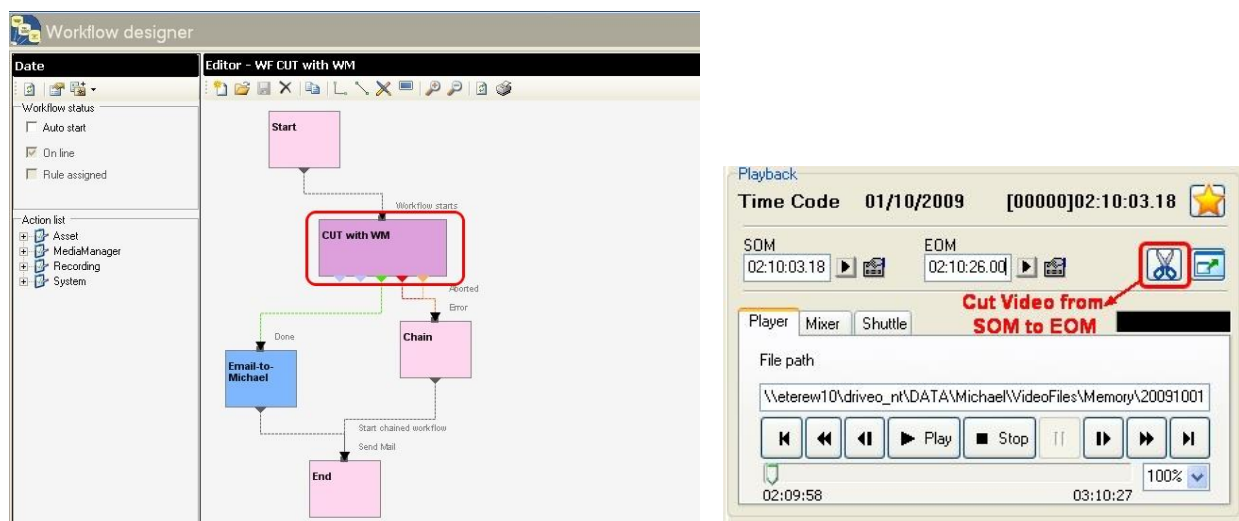
Etere offers an enterprise control of video files integrity; it keeps a log of the hash md5 of video files such in a way that it is possible to verify at any time if they have been modified after their approval. All video files registered on the Etere's database can be verified through an md5 checksum, 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 workflow editor allows creating custom Checksum workflows to either generate or check the MD5 hash of a video file.

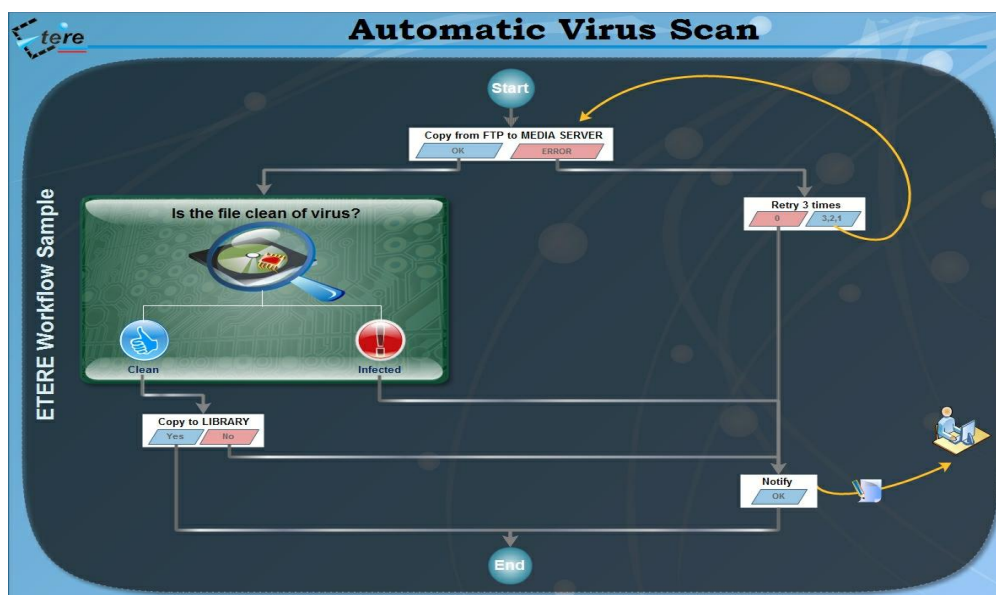
## 4.10 Video Files Cut Actions

Etere offers 'Cut actions' that permits to take only a portion of a certain video file, using a given timecode SOM and EOM. Defining and using a Memory Cut operation is as easy as shown below:

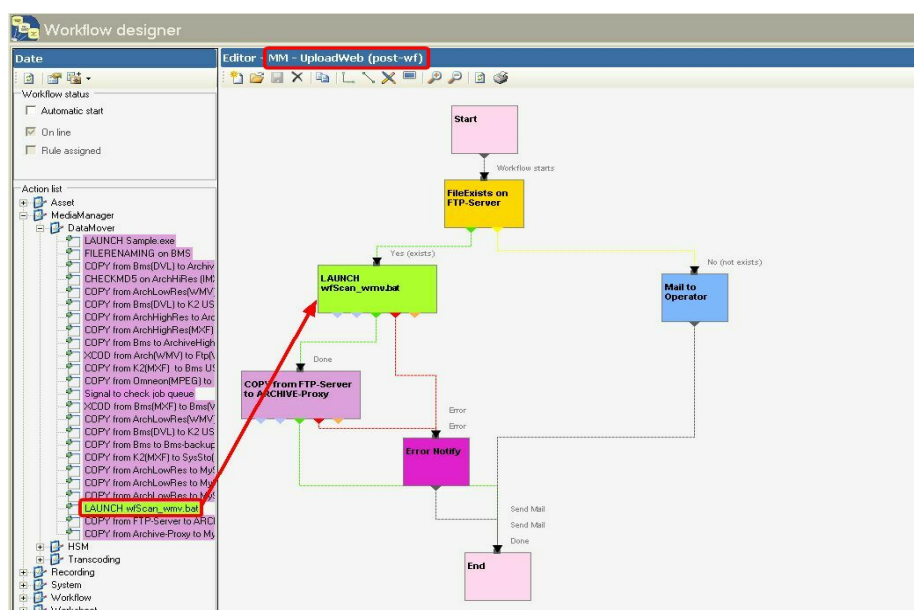


## 4.11 Antivirus Actions

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



As shown in the figure 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.



## 5. ETERE SOLUTION: COMPONENTS

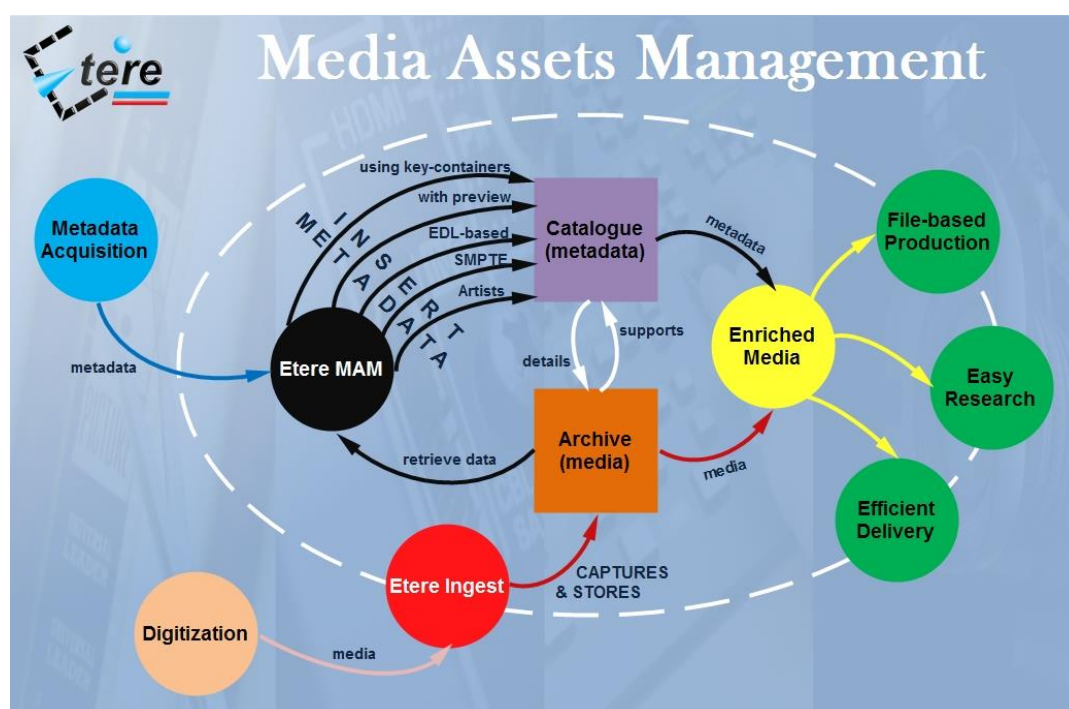
ETERE is an integrated broadcasting solution that implements a modular system formed by a set of modules specifically oriented to cover each complex phase of a broadcasting system, focusing to efficiently carry out specific operations such as media ingest, archiving, transferring, browsing, etc.

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.

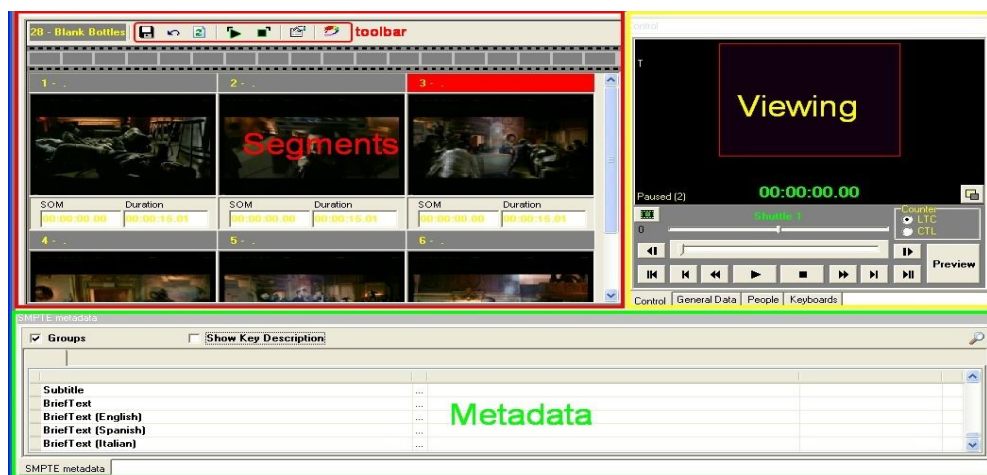
All modules that make part of the Etere's proposed solution will be treated throughout this chapter, explaining how its distributed architecture and integrated complementation are key parts of the success of the global system where a top-level performance and reliability is reached.

### 5.1 Etere MAM: Browsing and Editing

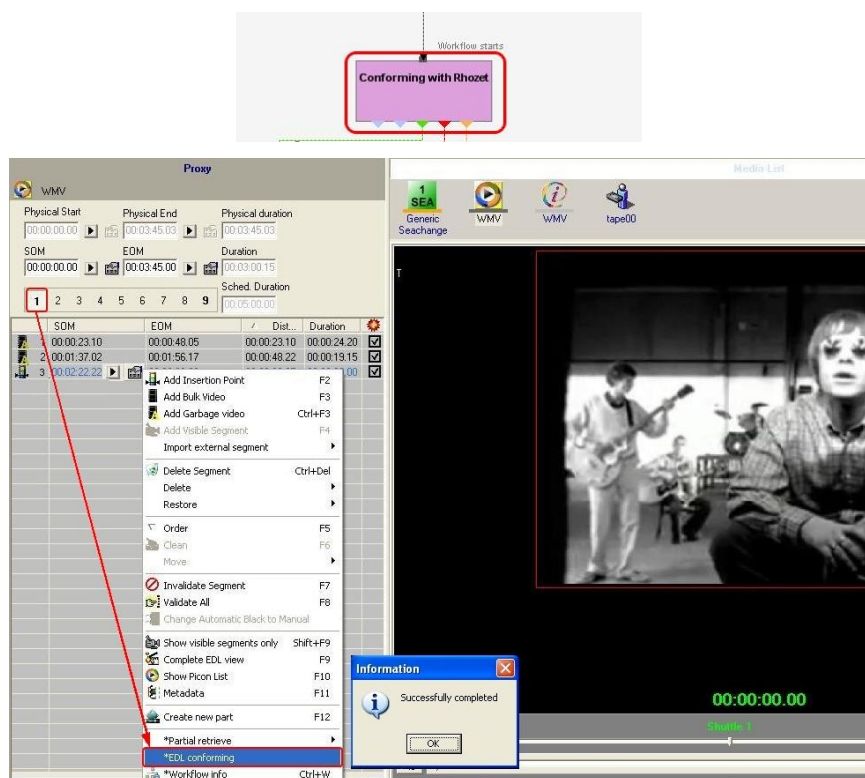
Etere MAM will allow operators to store information, search media EDL, and transfer EDL-based media to the playout server and the editing systems.



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

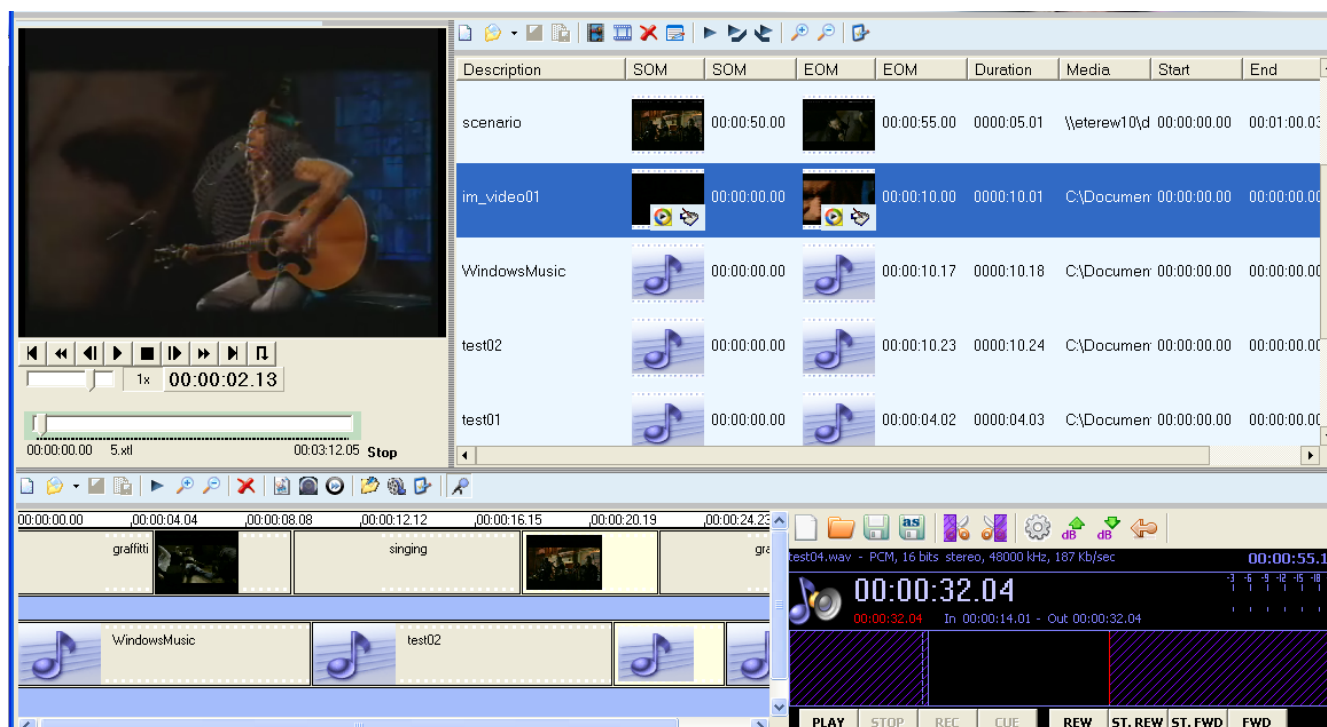


Etere also allows restoring only a part of video files by creating either high or low resolution video files including specific segments described on the source video EDL, it is important to note that as usual on Etere's operations, the conforming of video files is fully performed via workflow:





Etere MAM permits to join cut segments from different sources, to create a single final video file containing all scenes selected by the operator, use this function to for example perform the dubbing of video contents by overlaying an audio track over a video(s):

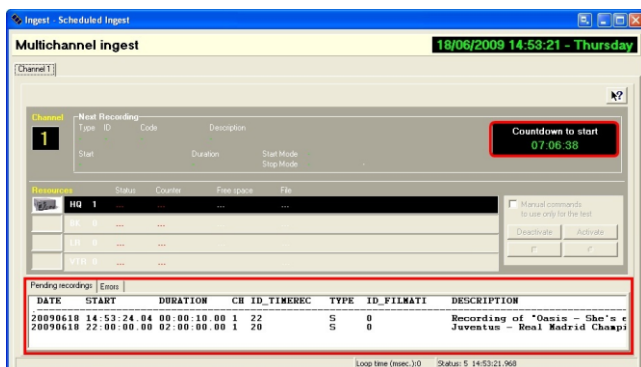


The image above illustrates the user-friendly interface on which operators creates new video sequences of MAM captions which includes all relevant metadata associated to the inserted scenes.

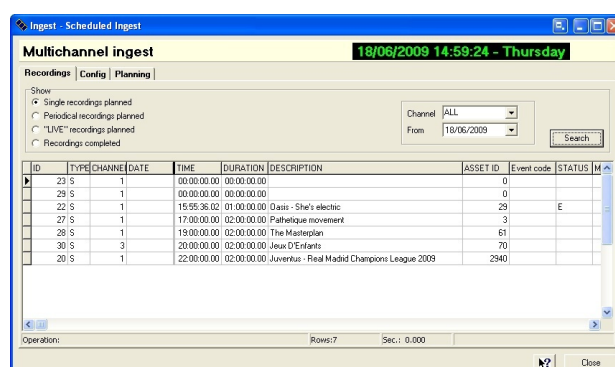


## 5.2 ETERE INGEST: Enterprise Capturing System

Etere ingest is a versatile set of modular applications that significantly improves the digitization process inside a broadcasting system, this software covers any particular requirement of the entire process such as automatic and scheduled ingest:

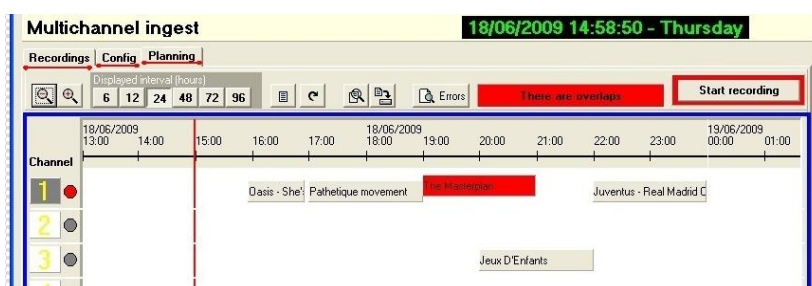


Automatic ingest



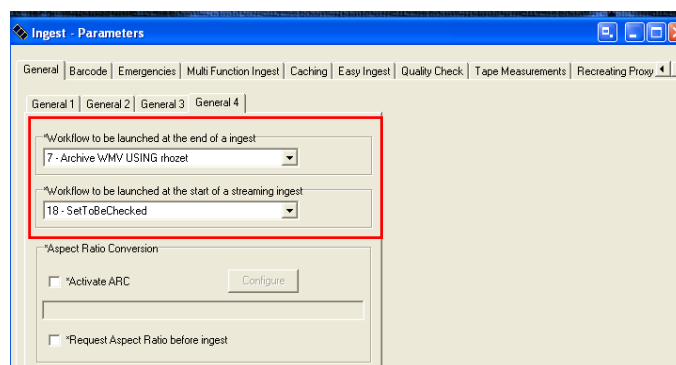
Schedule ingest

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:



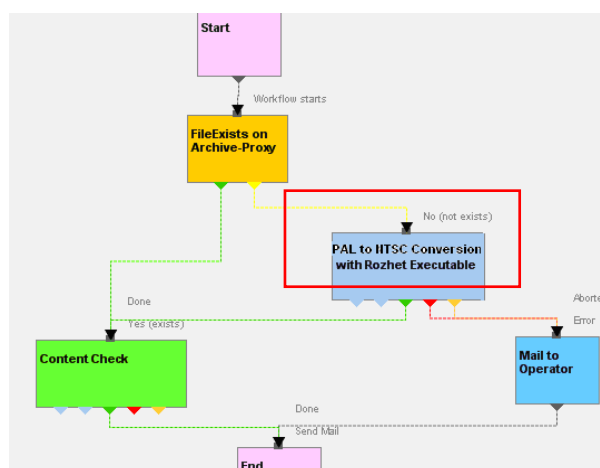
Planning View

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.):



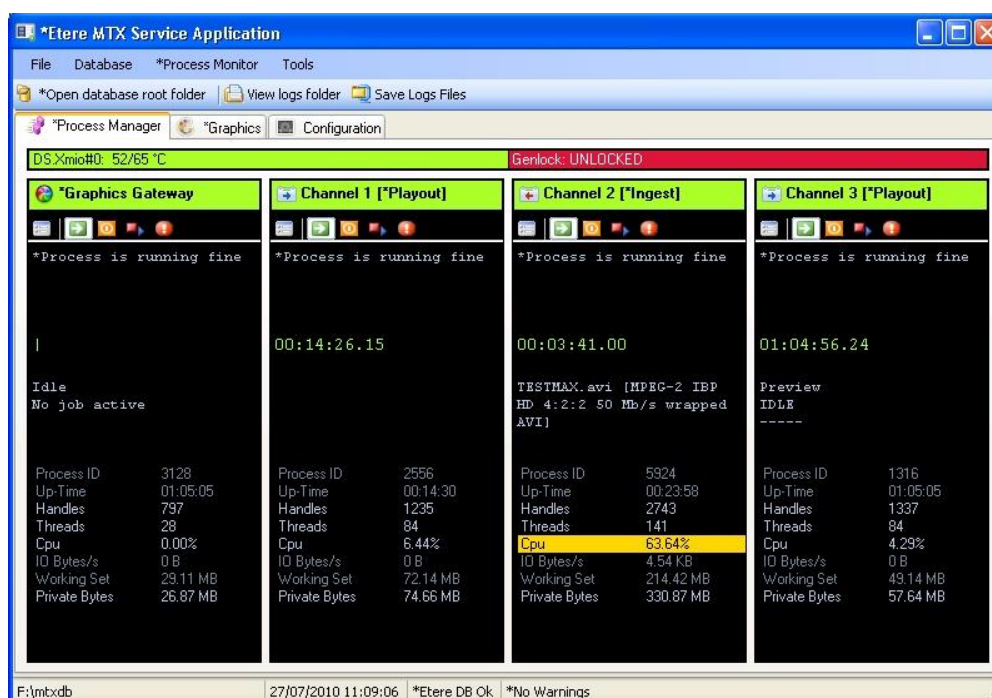


The image below illustrates how Etere allows setting the workflow to be launched at the start and end of an ingest process to for example, **create a low resolution** version or **normalize the audio** of captured contents:



### 5.3 ETERE MTX: Digital Capture using Matrox Video Cards

**Etere MTX** is the application offered by Etere to drive the most popular HD/SD Matrox digital video editing platforms, it combines the professional effects technology of a wide range of industry standard codecs with an Etere system, allowing to capture in both high and standard definition formats over digital inputs, mix in real-time all types of footage on a timeline with more layers and/or effects, as well as parallel multi-format ingestions, all these under a user-friendly interface:



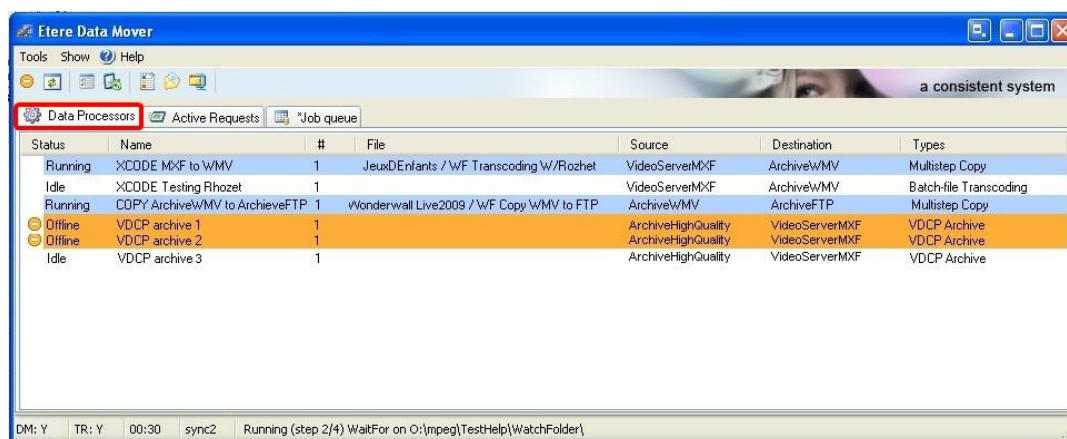
The station will be benefited with a real benefit due to an Etere MTX strong, its lower cost, that permits Etere to offer a cutting-edge product to acquire contents through four different channels with an outstanding performance, a complete support and most important, an unbeatable relation between quality and price.

## 5.4 ETERE MEDIA MANAGER: A Digital Archiving and Delivery

The Media Management 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.

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 Media Manager; this migration process also includes rewrapping and transcoding capabilities.

Etere's approach is oriented to "virtualize" the entire media management process, improving it with flexibility, customization and most important cost-effectiveness.

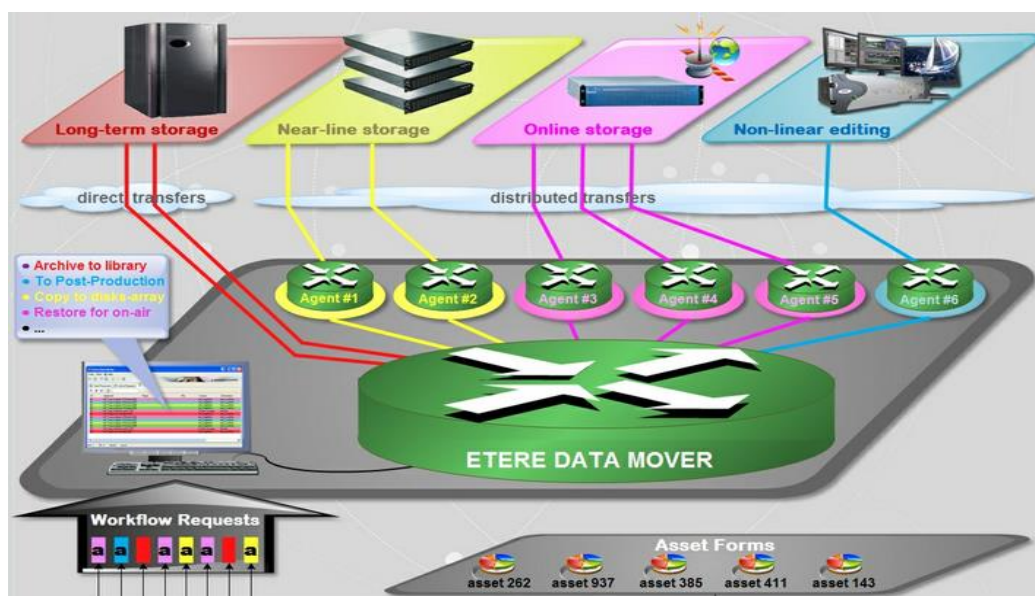


Etere manages (logical) metadevices instead of (physical) devices, this approach results in a wide range of possibilities for the media management, for example, it is possible to control with one click the available space of all metadevices:

Device name	Total	Available	Quota of available	Available free space
SEA-BMS	*Not available	58:00:00.00	58:00:00.00	78 %
K2-Client	*Not available	58:00:00.00	58:00:00.00	50 %
EtereMTX	*Not available	58:00:00.00	58:00:00.00	64 %
PDR2	16,66 Gb	5,85 Gb	5,85 Gb	65%

Etere 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.

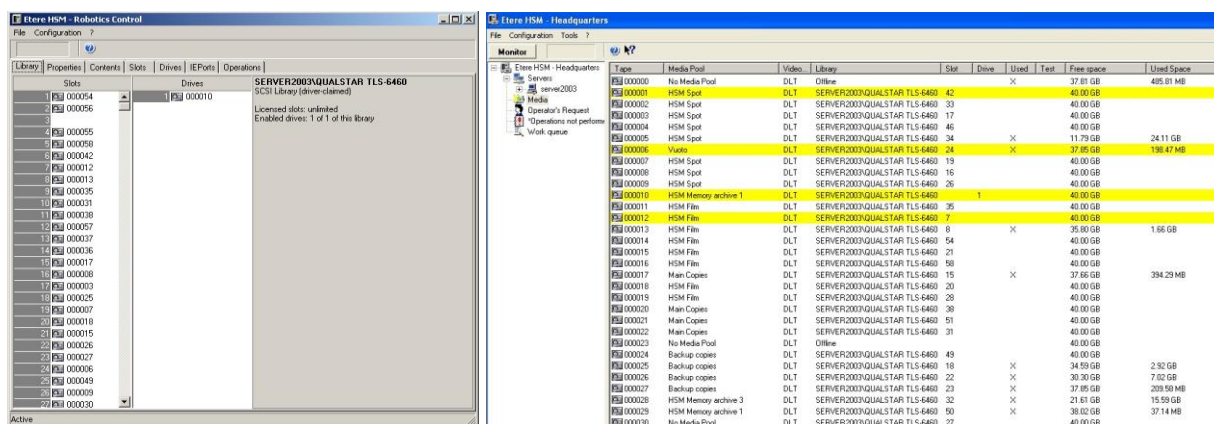
Additionally, Etere Data Mover is capable to provide both, distributed processing for using an independent agent per data transfer and parallel processing for simultaneously performing different instances of one data transfer; these features will allow stations to exploit high computing resources to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



## 5.5 ETERE HSM: A Tape Based Archiving

LTO tape libraries present in the station will be managed by Etere HSM, the cost-effective solution to radically streamline the management of expensive tape libraries; allowing stations to optimize the migration of contents including high and low versions as well as associated metadata.

Etere HSM improves the management of libraries by controlling their mechanical movements through the HSM Robotics Control and HSM Data Pump applications, which are able to run several data pumps on different machines to boost their throughput, while offering access to real-time logs, reports and statistics.



Etere HSM distinguish four different archiving levels into a broadcasting workflow, these levels required distinct access times which vary from 0 minutes (video server) to 15 minutes (standard video tapes).

All these levels are managed “virtually”, that is, you can use logical devices (metadevices) based on physical devices to free design your storage layout, enriching in this way the entire system with the benefits derived from the use of metadevices:

- Carry out loan-balanced movements on an intelligent multi-volume scenario,
- Extend your storage space by joining physical devices into one metadevice, without altering the archiving workflow,
- Categorize your storage devices by dividing them into metadevices with no partitioning required,
- Space limits and storage distribution are defined by the user and not by devices itself,
- Classify metadevices in media pools in order to automate their management,
- Background defragmentation and online/offline tape management,
- Scheduled archiving of devices, media contents and entire databases.

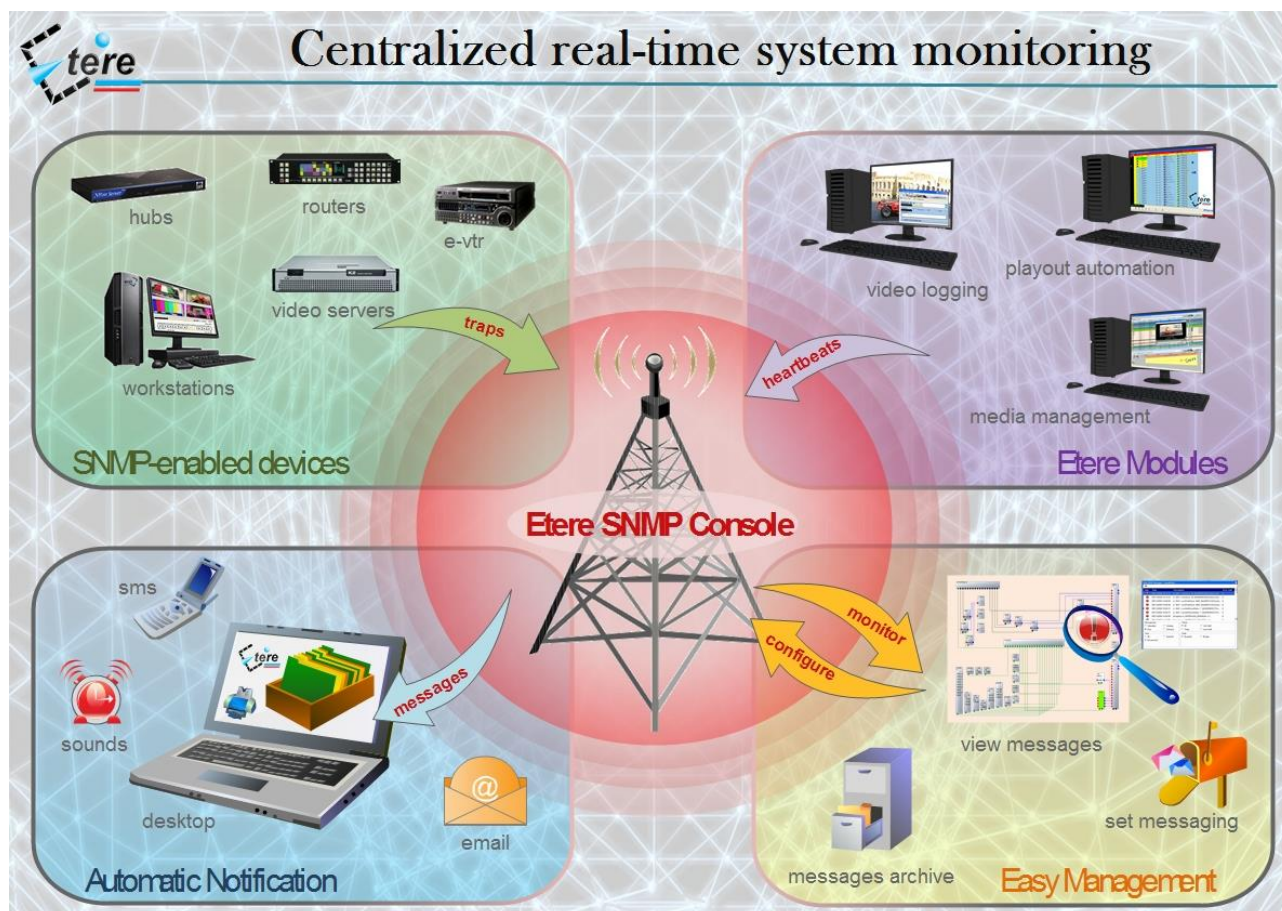
Etere HSM forms a tandem with Etere Data Mover to be the only solution in the market with an embedded multi-level and multi-rule cache that offers an intelligent management which ensures the best performances with low investments. Owing to Etere’s comprehensive character, these applications are perfectly integrated with other modules (e.g.: Ingest, EtereWeb, etc.) to allow all these modules to use shared resources and have unlimited communication.



## 5.6 ETERE SNMP: A Complete System Monitoring

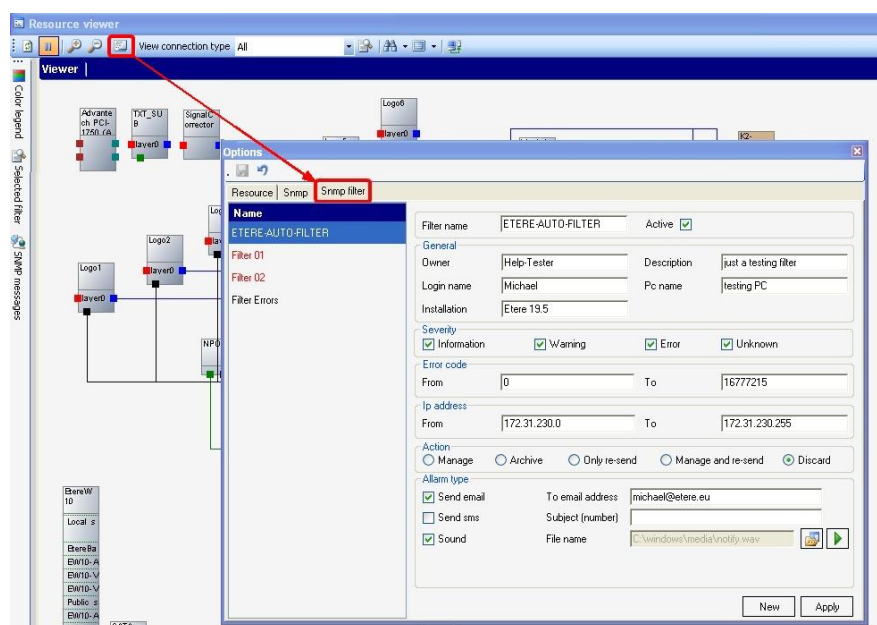
The Etere SNMP Console is the solution that allows to monitor any Etere module which collects and stores its management information (errors, warnings, etc.) through the locally installed Etere SNMP Agent which sends messages containing this information to a remote Etere SNMP Console which in this way monitors all the Etere's modules; through this console the operator can decide about the receiving policies (content, validity, filters, etc.).

The Etere SNMP 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:



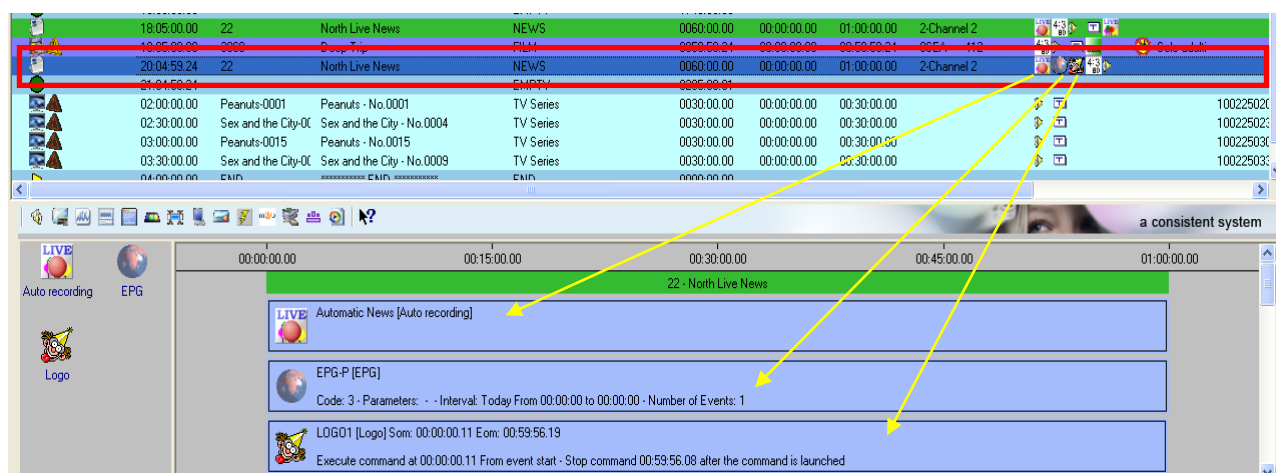
In order to improve monitoring of modules and devices, all Etere components are automatically subscribed to the Etere SNMP Service, so it will monitor the periodic heartbeats sent via SNMP by the components.

The monitoring system (i.e.: Etere SNMP 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:



## 5.7 ETERE AUTOMATION: Playout System

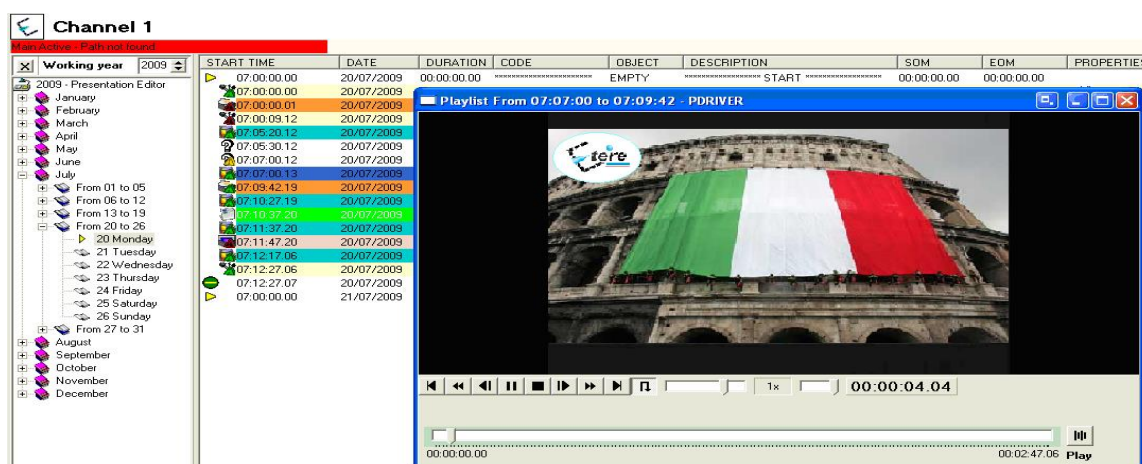
Etere Automation is the powerful, reliable and modular playout system able to enhance the station potential in terms of functions and workflow design, it is based on a unique approach which combines in a single product real-time device control and media asset management, offering a powerful mix of solutions 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, scheduled and real times, etc.:





## 5.7.1 Secondary Events Management

Etere 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:

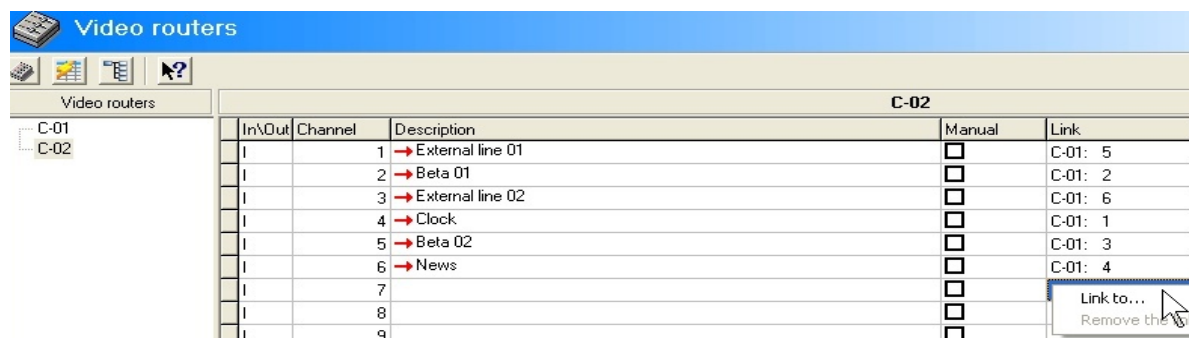


## 5.7.2 Live Events Management

Etere 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:



Video routers		C-02			
	In/Out	Channel	Description	Manual	Link
C-01	I	1	→ External line 01	<input type="checkbox"/>	C-01: 5
C-02	I	2	→ Beta 01	<input type="checkbox"/>	C-01: 2
	I	3	→ External line 02	<input type="checkbox"/>	C-01: 6
	I	4	→ Clock	<input type="checkbox"/>	C-01: 1
	I	5	→ Beta 02	<input type="checkbox"/>	C-01: 3
	I	6	→ News	<input type="checkbox"/>	C-01: 4
	I	7		<input type="checkbox"/>	
	I	8		<input type="checkbox"/>	
	I	9		<input type="checkbox"/>	

### 5.7.3 As-Run Logging

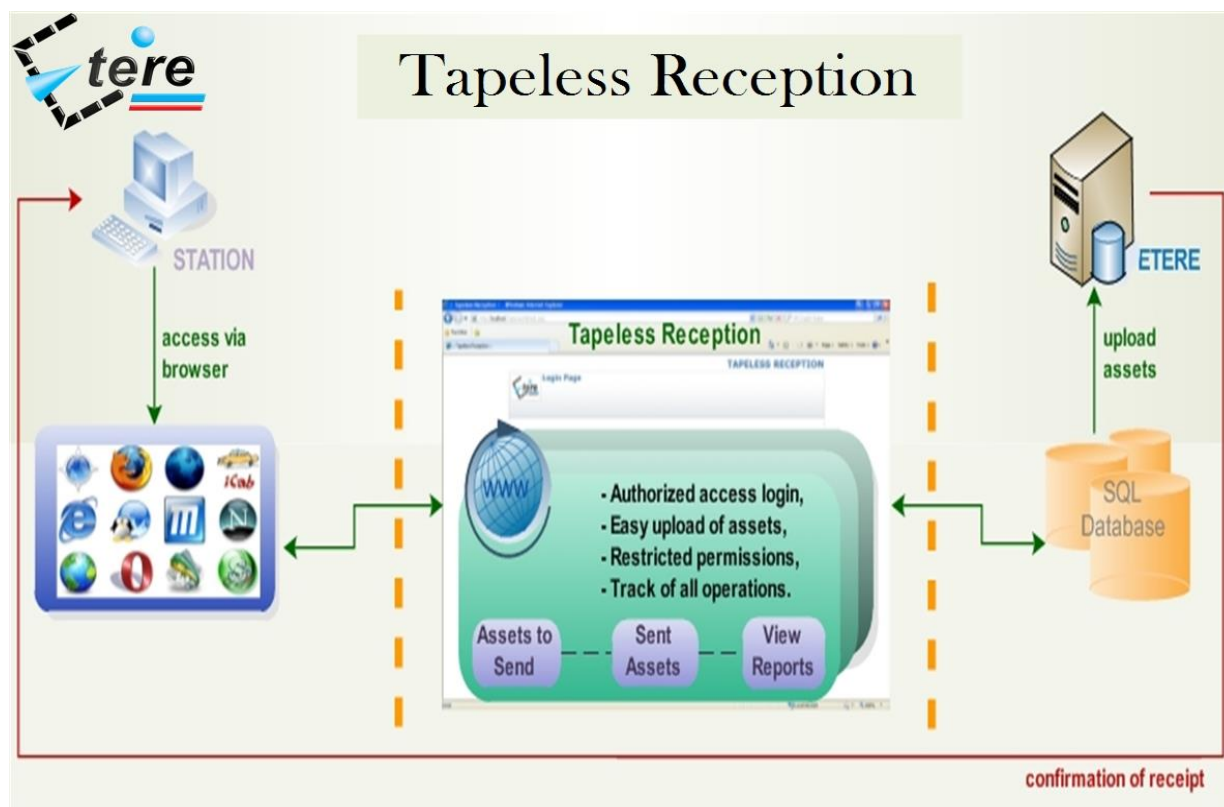
Moreover, the ability to export As-Run logs containing the schedule “actually” transmitted allows an easy reconciliation between planned and real playout, being possible to send to multiple (UNC and FTP) destinations a frame-accurate log in any of the available formats:

```
[ - ] 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 16:55:16.11] PLAYOUT COMMAND: SKIP
[ CLIP ] [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
```

## 5.8 ETERE TAPELESS RECEPTION: A Secure Remote Integration


Etere Tapeless Reception is a custom web service designed with the purpose of offering an efficient solution for multimedia content transfer between external agencies and stations.

Etere Tapeless Reception 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.



Etere Web works perfectly behind a DMZ router 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.













Etere Tapeless Reception takes full advantage of a tapeless environment to eliminate the need of creating physical copies, entrusting valuable material to private couriers, risking of excessive waiting times; thus by enabling contents to be sent digitally (i.e. without using magnetic tapes) via internet, bringing a shorter delivery time than this required by a common consignment of magnetic tapes.


**Sent**  
[Home Page](#) | [Assets to send](#) | [Sent Assets](#) | [Report](#) | [Logout](#)

Code

Date

Description

9/4/2009 3:35:04 PM - 41 - 41 test_xyz	SEA  	Select
10/20/2009 3:38:37 PM - 28 - 28 Blank Bottles	SEA  	Select
11/20/2009 10:03:20 AM - 55 - 55 Cuenta la historia	 	Select
11/20/2009 10:08:48 AM - 57 - 57 Mr Tambourine Man	 	Select
10/20/2009 3:19:30 PM - 1 - 1 Wonderwall	SEA    	Select
6/12/2009 2:58:01 PM - 2936 - 2936 spot reel test asset 001	SEA	Select

Etere's tapeless approach contributes to increase the level of security of the overall system since file-based operations can be performed only by authorized users, being their access completely tracked by the system.

## 6. BENEFITS

This paper has described how the development and deployment of a comprehensive and integrated end-to-end tapeless workflow for high-definition broadcast, the proposed system is able to provide the station with a large number of operational benefits and advantages derived from the smart use of ultimate media management technology; Etere will entirely manage the digital contents of the station, from acquisition to delivery, providing the following key benefits:

- **Reliability**, workflow-based operations from ingest to delivery that permits to monitor the individual system functioning while increasing productivity.
- **Flexibility**, on the implementation of capturing channels from which media content will be acquired.
- **Scalability**, for increasing the number of system elements without altering the workflow complexity, thus minimizing operational overheads and reducing overall costs.
- **Centralization**, media assets stored on a centralized server will be available for producers, reporters and editors, with the maximum of efficiency to reduce the risk of mistakes when retrieving data which is periodically and accurately checked.
- **Efficiency**, reduced need for repetitive manual operations, allowing to define them in advance and then include them in the ingest workflow, thus increasing productivity.
- **Accuracy**, during the whole media management process, reducing the risk of mistakes when retrieving data since all archived contents are continuously checked.
- **Integration**, Non-linear editing systems will be able to access the digital archive directly and efficiently through a proper production environment, making use of the highest security standards.
- **Preservation**, an intelligent management of content archived in tape libraries will allow transparently searching and retrieving long-term media on-demand.



## 7. About Etere

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 20 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.

*Etere: a consistent system*

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