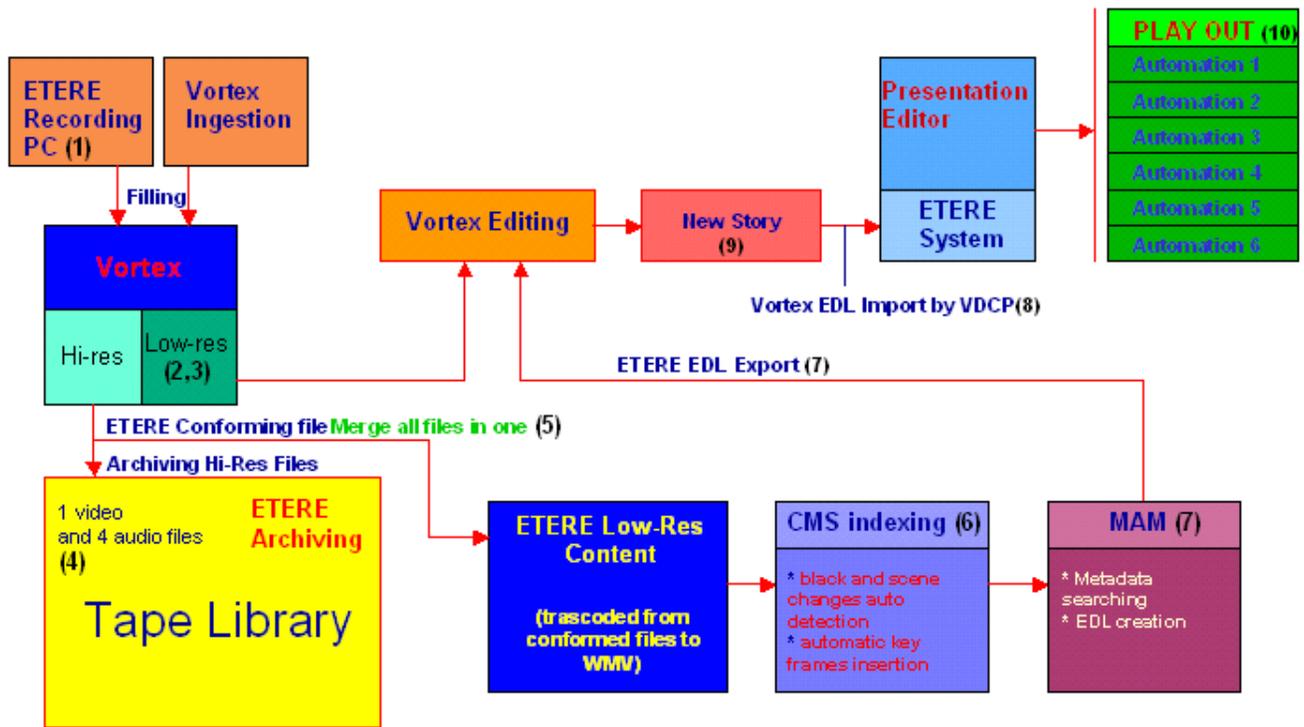


NETMED WORKFLOW

Etere R&D	Ver. 1.3	04/08/2009
 <i>NETMED WORKFLOW</i> NetMed Workflow_05.DOC	Page 1/14	

Diagram



NETMED PROJECT GOALS

NETMED is going to start 5 new sport channels.

NETMED needs to ingest a lot of material simultaneously and to provide metadata insertion – indexing – asset delivery on intranet - archiving of the visual content on tape library, through ETERE.

NETMED's operators must be able to search material in the database using several keys and to preview and select the contents from the result list.

VIDEO SOURCES

Video content could come from different sources (VTRs, satellite, cameras, etc.) and simultaneously

DEVICES TO REMOTE

For NETMED's project we expect to remote the following devices:

- Up to 6 VTRs for ingest (Betacam, Digital Betacam, IMX, DVCPPro, Dvcam)
- Up to 17 Pinnacle VORTEX I/O connected to a Palladium central storage (1'040hrs @ DV25)
- Low Res Server storage (1'040hrs @ WMV)
- An audio/video router for all ingest signals

A StorageTek SL500 (34TB) LTO2 tape library or an IBM 3584 (51TB) LTO3 tape library as deep archive through Etere HSM (Archive Manager) software

Etere R&D	Ver. 1.3	04/08/2009
 <p><i>NETMED WORKFLOW</i></p> <p>NetMed Workflow_05.DOC</p>	Page 3/14	

ETERE'S WORKFLOW

Below is described the following purposes workflow:

- ◆ Assets creation and Ingestion
- ◆ Archiving
- ◆ Trascoding
- ◆ Manual and CMS indexing
- ◆ MAM
- ◆ Automation

DEFINITION OF SERVICES

1.1.1. Assets creation and Ingestion

Ingestion can be done by ETERE Recording and/or the VortexEditor application without distinction. In both cases, Vortex will store digitized files in High and Low resolution. These files are composed of one video and several audio files in base of the customer needs.

Clips ingested by Vortex are used to create "stories" which are available for the ETERE play out system. ETERE uses the VDCP protocol to import them in its own database. The USER Cannot be created materials and stories with the same name/codes; it must be unique for each clip/story.

In the picture below (fig. 1) is showed how you can ingest material using the Vortex Captured Station.

Etere R&D	Ver. 1.3	04/08/2009
 <i>NETMED WORKFLOW</i> NetMed Workflow_05.DOC	Page 4/14	



(fig. 1)

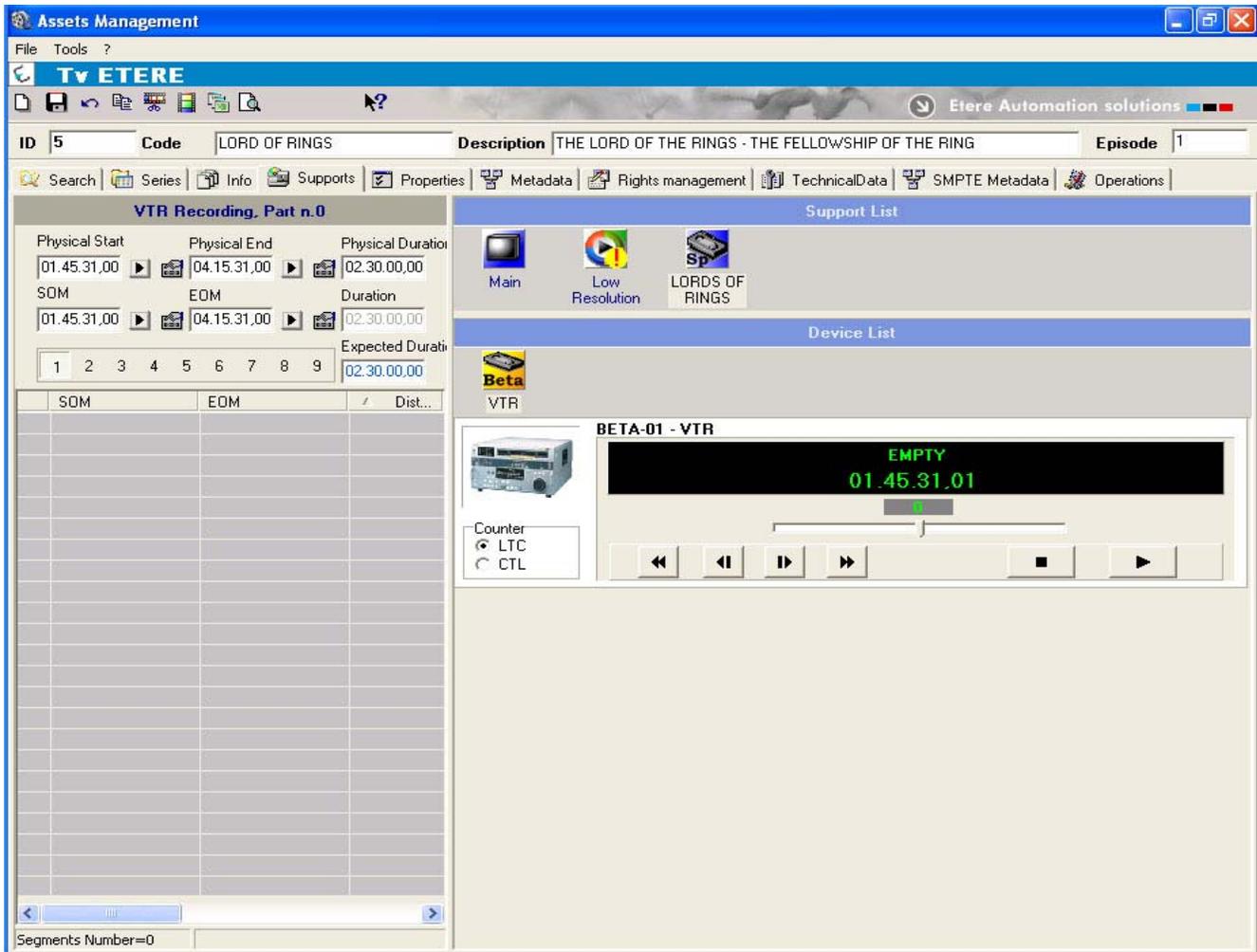
Instead, if the ingest process is done using ETERE, Recording is the module dedicated to this function.

Master Control Operators can use the following applications:

Asset Form.

This is the ETERE database for all clips. By Asset Form the operator can create new assets and type all information regarding them such as Description, Production Country, Type, Metadata information, and so on (fig 2). By Asset form it is also possible to create reference tape and insert media information like SOM and EOM, before start recording it. (fig 3)

Etere R&D		Ver. 1.3	04/08/2009
	NETMED WORKFLOW		
	NetMed Workflow_05.DOC	Page 5/14	

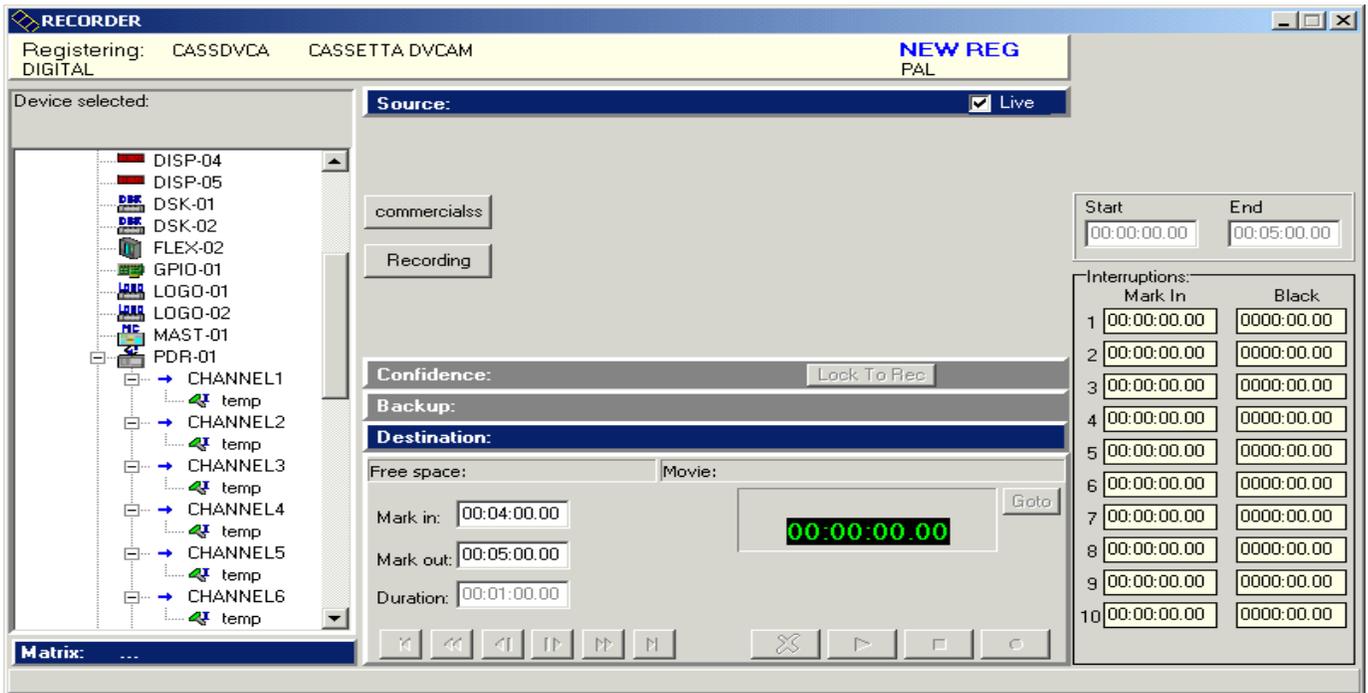


(fig 3)

Ingestion.

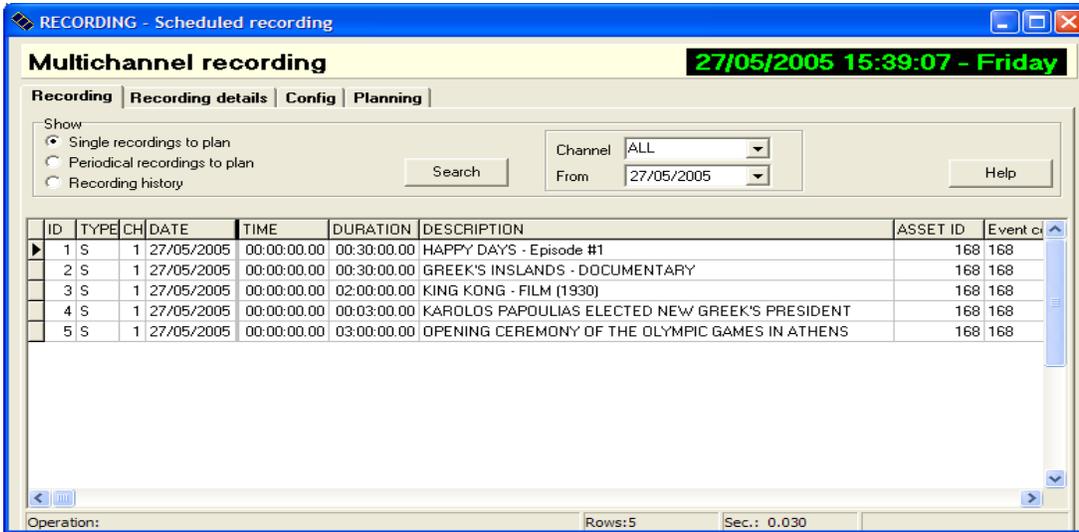
Ingestion process can be done using Multifunction recording and Scheduled recording.

By Multifunction Recording the operator can manually ingest materials from external feeds or VTR sources. The form is divided into three parts arranged in vertical way. The first one shows the available devices. The second shows sources in use. The third allows marking the recorded clip. It is easy to the operator to choose the source dragging it in the corresponding section. When the operator start recording the asset, SOM and EOM are already taken from the reference tape.

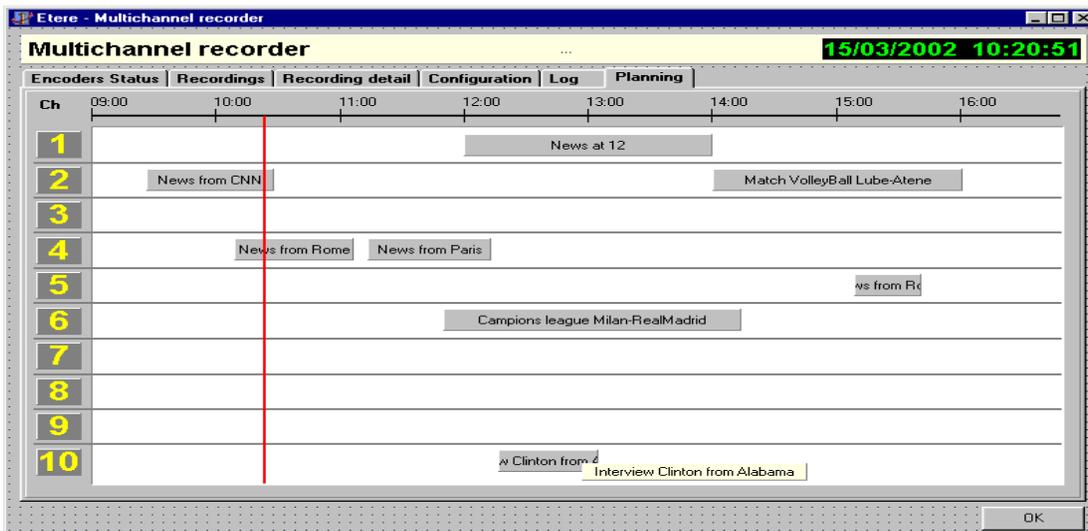


(fig 4)

Scheduled Recording is used to automate ingestion process when the event to be recorded comes from an outer signal and the operator doesn't want to manually start the recording. The main form allows both to search scheduled recordings and to create new ones. (fig 5). A Planning shows all recordings scheduled (fig 6)



(fig 5)



(fig 6)

At the end of the ingestion process, in the Vortex video server will be stored high and low resolution files. Low resolution files are not used from ETERE but only from the Vortex Editing System. These clips will be deleted and transcoded again if needed by a Vortex application. ETERE does not manage and archive Vortex low resolution files.

1.1.2. Archiving

A deep archive based on StorageTek or IBM tape library is available to free space on the video server storage (Palladium) and following the migration policy you can set-up (when free space is less than 20% - all material older than a certain period - event's type, etc.) Etere Media Manager and Etere HSM (Archive Manager) provide automatically to copy/move the clips from the video server into to the tape library.

ETERE archives only the High Resolution Files in Vortex format

1.1.3. Trascoding

ETERE transcode and conforms all Vortex digitized files to VMW format creating its own Low resolution content database. Low resolution files will be available only at the end of the transcoding process.

1.1.4. Manual and CMS indexing

For each asset you can input/add a lot of metadata and proceed with indexing.

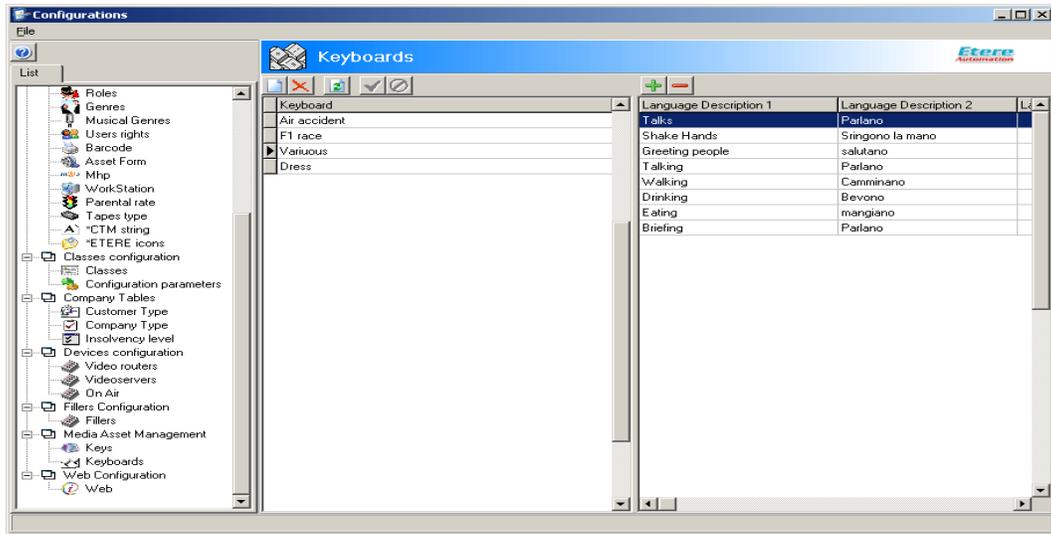
By Etere you can set up different input forms depending on the event's type you are managing (news, different sport events, etc.) If you are indexing a news, input fields could be who is the journalist - the location – the press agency, while if the material is a sport event the correct input fields could be who is the player – who are the teams, etc.

You can also set several keypads and keys (fig. 7 & 8) in order to simplify the indexing but overall to avoid operator's typing errors that can cause problems during material retrieving; as an example: if you type fooball instead of football in one clip's description field, when you try to search all clips related to "football" system will not show you in the list the clip with wrong description.

Using low res you can preview a clip and index the most important events and scenes inside it, describing them one by one and setting the TC references (figure 9).

Etere includes also the CMS Content Management System, an application that scans faster than real time, about 8X using a Pentium 4 - 1GB Ram PC) low res file and automatically detects black and scene changes and also allows automatic key frames insertion to help the operator to speed up the indexing job.

Etere R&D	Ver. 1.3	04/08/2009
 <i>NETMED WORKFLOW</i> NetMed Workflow_05.DOC	Page 10/14	



(fig 7)



(fig 8)



(fig 9)

1.1.5. MAM (Media Asset management)

Once the material has been indexed, NETMED's operators can search the contents using several keys over all metadata. The result is a list of clips responding to your selection principles divided by event type/category. For each clip a thumbnail and main metadata are showed (fig. 10) so you can perform single low res preview (to be sure the clip is what you are looking for) and/or select the wanted materials and drop them into a playlist in order to preview the sequence you created using low res (fig. 11). Once the sequence is confirmed, ETERE create automatically a new ASSET with the name of the sequence, exports the EDL created to the Vortex system. Vortex must be able to read and load the EDL generated from ETERE.

Then using Vortex system the USER can edit the material and create a final product. At the end the operator must create a slug name of the story with the same name of the Sequence created in Etere and publish that story.



(Fig 10)



1.1.6. Retrieve

When the selection is confirmed, ETERE looks for all off-line material (clips not present in the video server but present in the deep archive or in a standard video tape) and automatically moves high res clips stored in the tape library archive into the video server storage and/or provide the details (position on the shelf, start TC, end TC, etc.) about the video tapes where content is.

1.1.7. Automation

The User can build the schedule using Presentation Editor, just after it has been created the Asset From Etere MAM sequence. After the publishing from Vortex system the operator has to do update length and supports in presentation editor to update the correct length of the asset, and publish again. It is also possible to dub clips it into a tape to send to 3rd party (other TV stations, post-production, etc.). The schedule can be composed with stories (slugs) created by the Vortex Editing System and assets created by ETERE. All clips ingested are broadcasted for the whole length by ETERE Automation using the VDCP protocol. Clips shorter than 10 seconds cannot be broadcasted, the Etere automation schedule can be edited and published until 20 seconds before next event starts.

Etere R&D		Ver. 1.3	04/08/2009
	<i>NETMED WORKFLOW</i>		
	NetMed Workflow_05.DOC	Page 14/14	