Case Studies

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Further information about *ETERE* is available on the website: www.etere.eu

A.   Rai Trade

A.1   Customer's requirements:

RAI Trade wants to provide its customers with an effective way to examine video assets during exhibitions. E.g. RAI trade wants to improve its happening productivity in promoting its video assets. Up to now, RAI Trade is used to work as follows:

- Clients and potential customers are provided with VHS tapes.
- VHS tapes contain trailers or actual Video products.
- Several copies of same tapes are recorded in advance.
- Video Tapes simultaneous consultations are allowed.
- Customers are provided with VCRs and monitors.
- Receptionists deliver Video Tapes to customers.

A.2   Recommended solution:

In brief the recommended solution is going to touch the following concept:

- Recording system to turn analogical contents into files in digital format.
- Transcoding system to convert files in several video file formats ensuring widespread use on customer's home systems.
- Low resolution consultation to quickly track the video contents.
- Dedicated disk system taking low quality files apart from high quality.
- Library tape system for video contents high resolution storage.
- *Metadata Storage and Retrieval System* based on MS SQL db.
- Network system based on MS servers and clients architecture.
- Several Network PC clients to replace VTR and TV monitors.
- Web application for low resolution video catalogue display.
- *Jog & shuttle* utilities to control video contents.
- Audio control system with audio scrub and speed regulation.

A.2.1.1   Formats:

A.2.1.2   Broadcasting quality video:

Both the MXF/IMX and the Mpeg2 50Mb/sec formats have been recommended. Nowadays those formats are universal between broadcasters. MXF formats allow inserting metadata inside video files, as well. By the way, metadata are usually edited just in text format.

A.2.1.3   Video preview and Internet

The WMV format (windows media) @ 3Mb/sec allows higher quality than VHS and extreme file compression; while the WMV format (windows media) @ .5Mb/sec allows video quality as good as VHS with extreme compression. Moreover the WMV format allows rights management with limited time in files reading.

A.2.1.4   Disk and tape storage:

Disk with Raid 5 protection with 8 Tb size are recommended to preview up to 2000 hours of video contents and respective metadata.

LTO3 tape is recommended to store 15 hours of video in broadcasting quality. The specific tape format ensures extreme file compression never seen before.

A.2.1.5   System requirements:

Microsoft SQL: Relational Database

Etere MAM: Media Asset Management

MS IIS: Internet Information Service to run web applications

MS Windows media 9: streaming services

A.2.2   Ingest System:

- VTR IMX Sony encoders allow ingesting file in MXF/IMX format from tapes either in analogical format or in digital betacam.
- Transcoder software converts the MXF/IMX format into several formats.
- Library manager gets high quality copies of LTO3 tapes. The library will be at first made of a single drive LTO3.
- Media manager handles files transfers and transcoding operations.
- Cart machine to boost the ingest process speed; a cart provided with 3 VTR can record 60 hours of video content per day.

Figure A.1 full system architecture
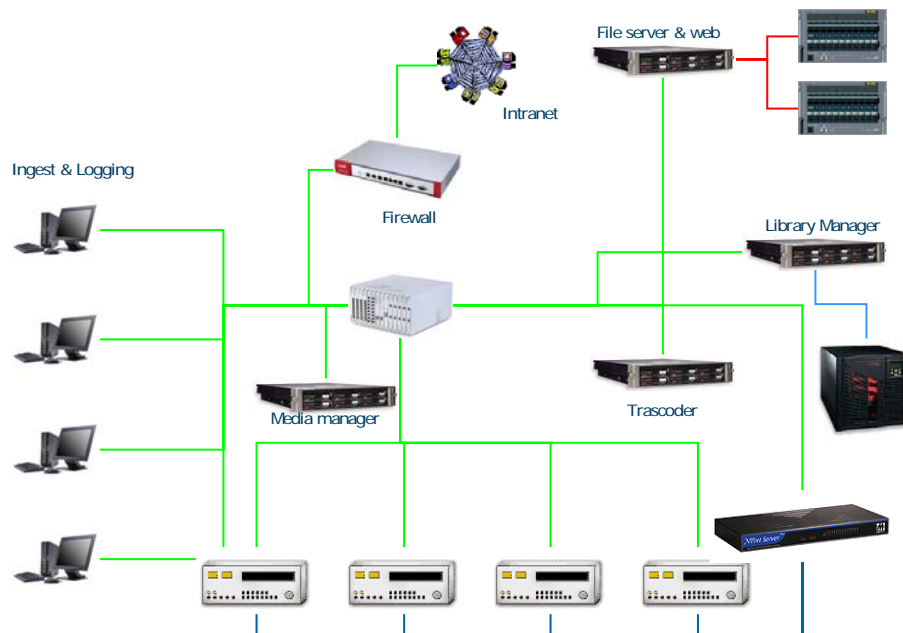System design with encoders, transcoders, library manager and media manager.

File server & web

Intranet

Ingest & Logging

Firewall

Library Manager

Media manager

Trascoder

Figure A.2 cart-machine designed system

File server & web

Intranet

Ingest & Logging
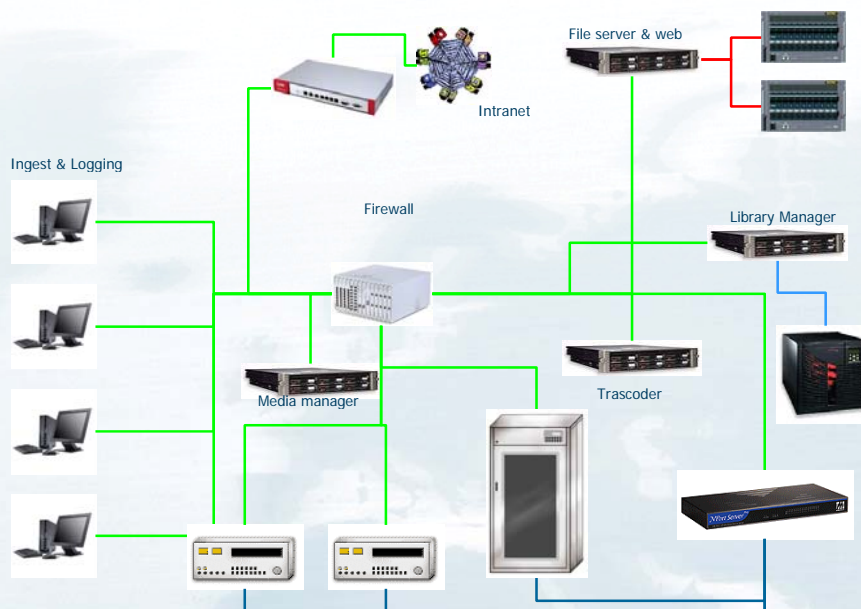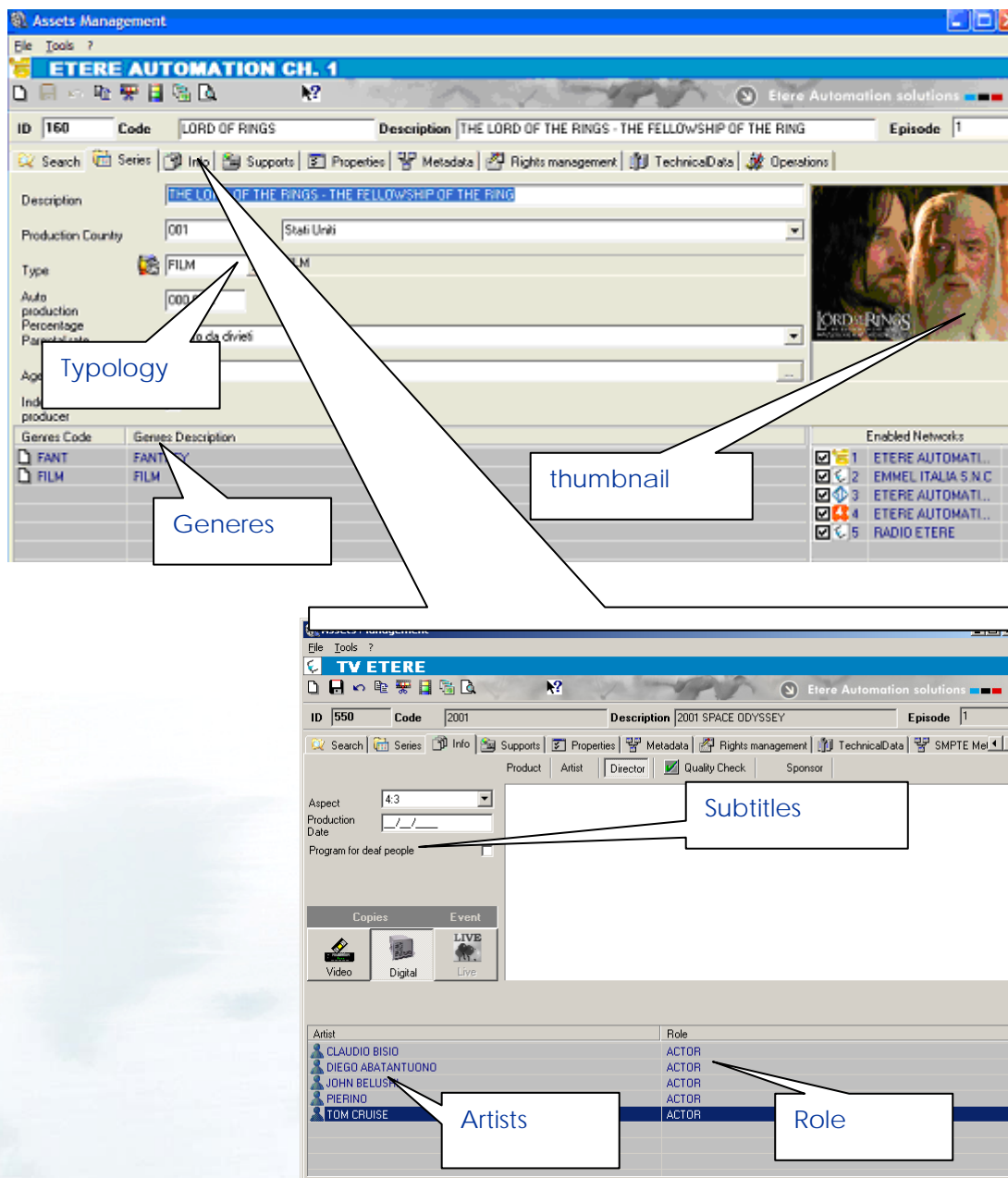
Firewall

Library Manager

Media manager
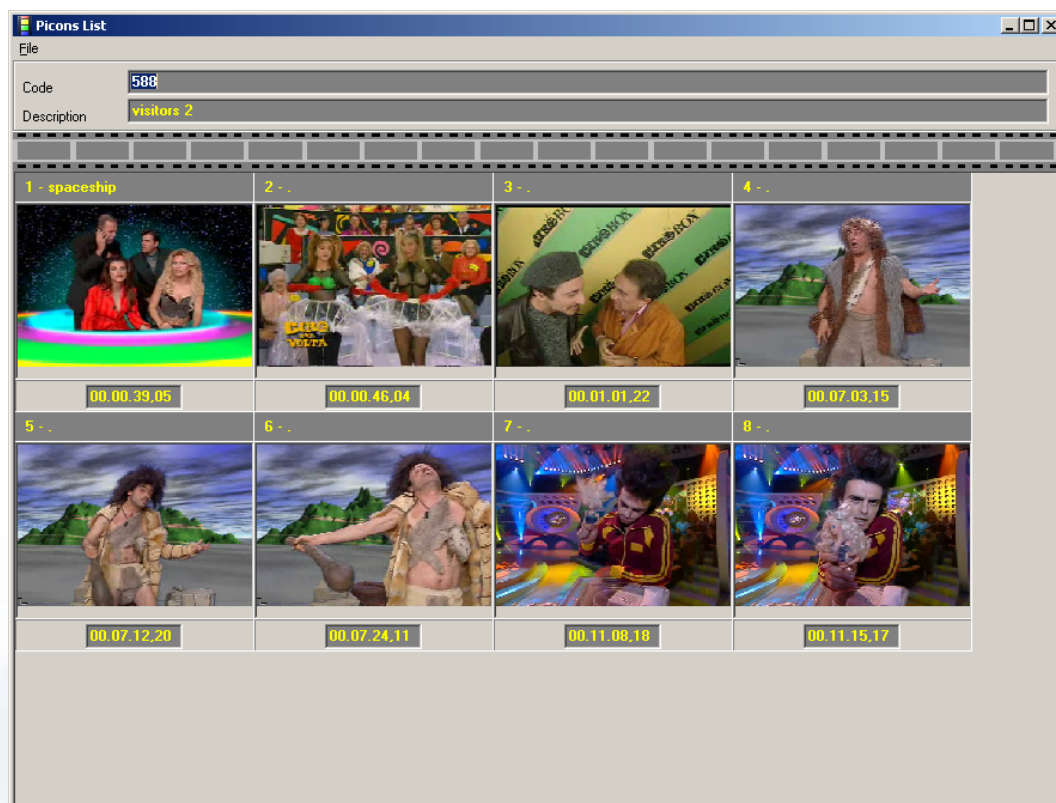
Trascoder

Figure A.3 Etere MAM metadata storage

A.2.4　　　　　Scene Changes

The system can index scene changes. Scene changes indexing may be useful in driving visitors' attention to a particular tape sequence during video material display.

The scene changes can be determined either automatically or manually.

Figure A.4 automatic scene change screen shot

A.2.5   Search system based on Web Server

The search system is based on a web server. The interface will be built over Rai trade's pre-existent system. The client will be connected by this interface. The system is installed in removable racks for easy transport. The server system is reorganized to avoid last minute problems.

Figure A.5 Web Server System
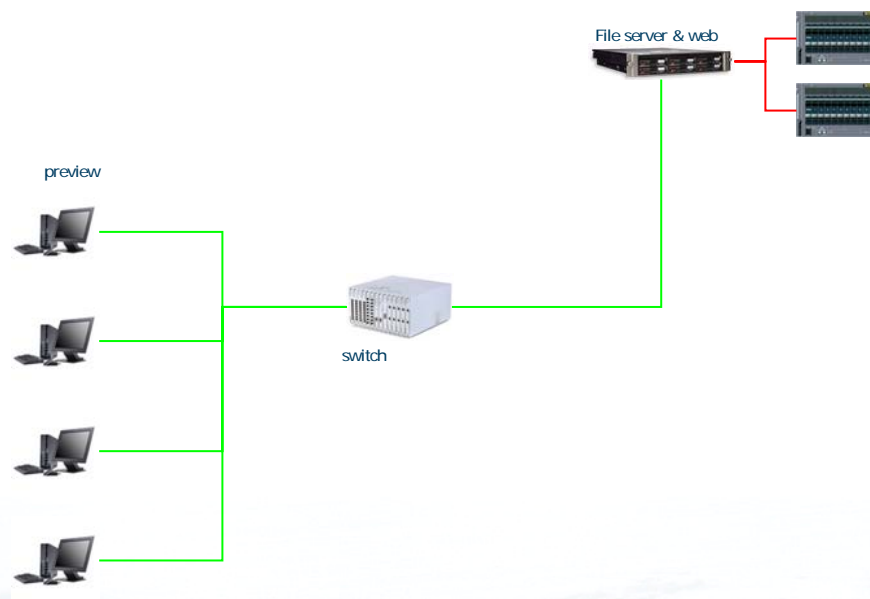
A.2.6   Web interface

There are several possible options for web interface:

- Option 1 Rai trade makes its own customized graphic interface and then delivers to Etere the design and graphic objects. Afterwards, Etere implements the interface connection with the database in language aspx /. net.
- Option 2 Rai trade uses the Etere web templates to interface with the database.

A.2.7 Recording

It is important to have well organized video assets to be recorded.

Operators have to clearly understand start and end point in video assets recording.

End and start points can have worthless importance in recording video assets with long duration but they have a great weight on promos short durations.

A typical IN/OUT tape operation, considering the respective barcode editing as well, requires about 4 minutes. Therefore an operator can check about 15 tapes in one hour. Moreover, we have to consider recorded assets check-back. An operator manages to check no more than 80 objects in a shift of 8 hours. From this point of view the employment of two E-VTR and one Cart Machine can be considered the optimum solution because quicker (compare Chapter A.2.2). A cart machine with 2 VTRs can load 80 objects per shift if the loading is automatically prearranged during shift changes.

A.2.8 Flight Case

A *Flight Case* solution is recommended to contain the required *Hardware*. Its shock absorbers for removable racks allow easy transports.

Figure A.6 flight case image