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communications limited

pharos whitepaper

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Contents

1 Abstract	3
2 Workflow consolidation	4
3 System structure	5
4 Asset management in action	8
5 Gearing up for a multi-format market	9

1 Abstract

The introduction of broadcasting via cable and satellite resulted in a massive increase in the number of transmitted programme channels, expanding the level of activity but demanding increased efficiency from post-production and playout staff. Spencer Rodd explains the operational benefits which Pharos' Mediator media asset management system offers over traditional tape-based workflows.

Tape-based broadcasting is stressful and inefficient, dating back to the time when a large team of staff was required to maintain the output of a single channel. Tapes can easily be lost or damaged and the workflows involved in moving discrete media from one location to another are unreliable and labour-intensive.

Our role as a company is to make broadcasting efficient, predictable and repeatable - on time, every time. Efficient asset management and a correctly designed workflow allow broadcasters to concentrate on their primary business, generating increased revenue by offering more services whilst reducing operating costs and increasing efficiency. We achieve this goal using file-based techniques which are safe, easy and fast; incoming content being automatically digitised on arrival. Accompanying metadata is simultaneously entered into the system and logged against the file throughout its life-cycle.

2 Workflow consolidation

Migration from a tape-based to a file-based operation allows previously complex activity to be consolidated into a single workflow, designed to avoid single points of failure. An effective asset management system eliminates complicated panel-per-product control hardware. Staff should instead be presented with easily-understood graphic display screens providing all the information needed to handle the current task.

And we are not talking about one-off little-box solutions. Pharos' core media management system, Mediator, is configurable to match the precise requirements of every broadcast station or network. We have learnt the importance of analysing each MAM client's workflow to identify specific local requirements, to determine where existing practices can be improved and to flag up single points of failure at the concept stage rather than waiting until system integration is near completion. This is often an illuminating procedure for the client as few companies routinely analyse their own operational procedures.

Pharos provide workflow consultancy during the system planning stage to optimise the operating procedures required in the new environment. Our primary aim is to ensure an orderly switchover without impacting day-to-day business in any way.

Mediator forms the basis of a flexible system for a wide range of broadcast applications from playout Service Providers to full-scale multi-channel Broadcasters. Mediator is fully scaleable to allow future growth as the broadcaster's business expands. Mediator systems provide for the relevant number of users from a few individuals up into the thousands, depending on the scale of operation required. System performance is never degraded, no matter how many members of staff need to access the system at any one time.

3 System structure

Figure 1 shows the basic structure of a Mediator system. Integral web-based user interfaces allow ingest, quality-control/compliance and browsing/reviewing stations to be located anywhere onsite, offsite or offshore.

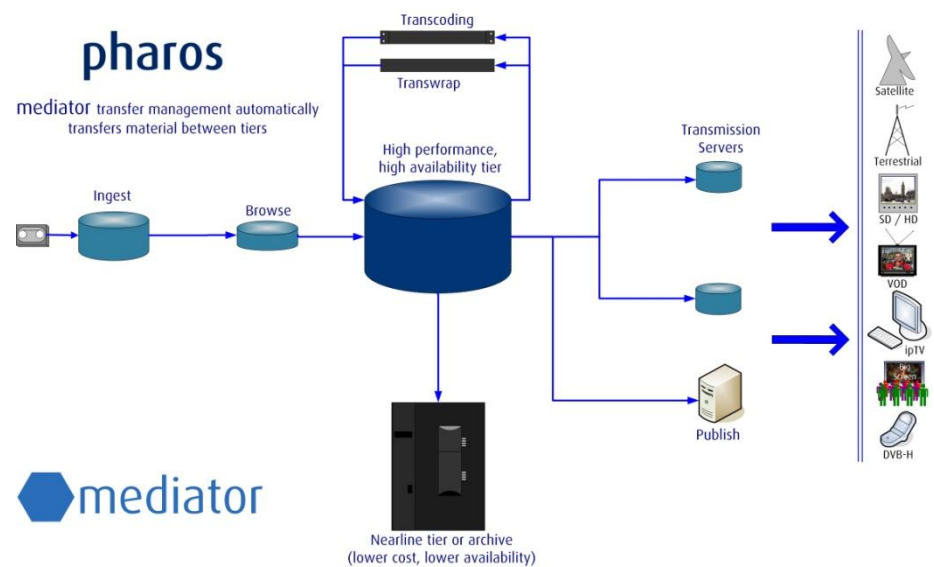


Figure 1

Mediator connects disparate systems, enabling the current functionality envelope to be stretched. This includes schedules importation from third-party-devices. Connecting to rights-management systems allows control of what is played to-air. Editing systems are integrated into the workflow and alarms are raised when material is not yet ready for transmission.

Figure 2 shows the Spot Check screen, a confidence check to ensure that the correct programme has been ingested. Irrelevant background information is hidden from non-engineering users but can easily be accessed by supervisors whenever required for reference, progress checking or reconfiguration. Files can be transcoded from one file type to another, simplifying the task of repackaging for web-based and mobile television viewing and thus expanding a broadcaster's potential revenue streams.

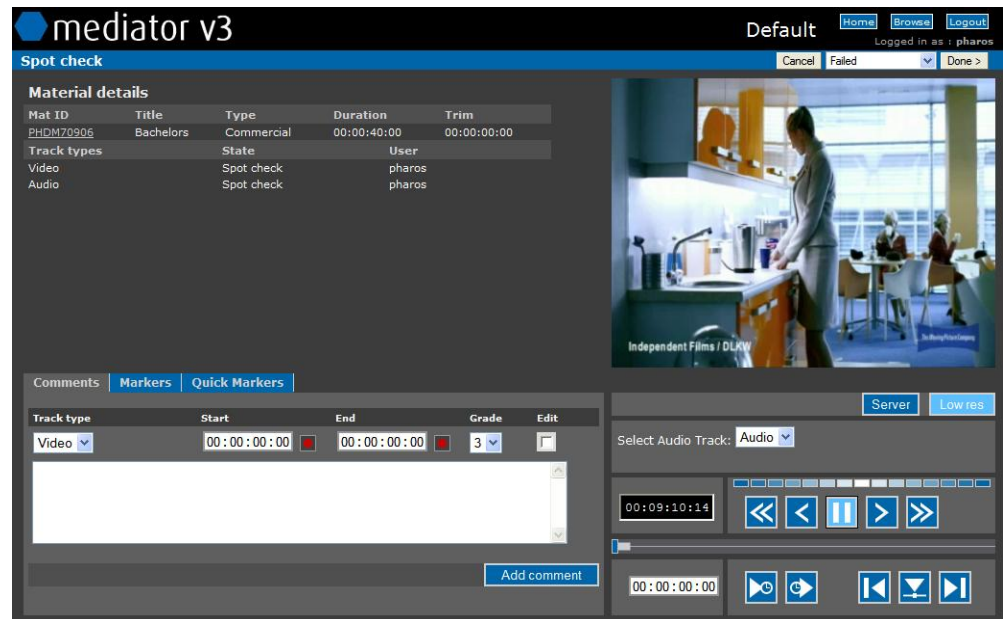


Figure 2

Mediator offers the precise functionality required to manage every aspect of an end-to-end broadcast operation. An unlimited number of assets can be digitised and archived, allowing true migration from the tape library. Tape-library shelf management, logging tools, ingest, quality control, automatic storage management and transfer facilities are all incorporated. Standard functions like searching the library and browsing are integral and transcoding and re-wrapping can be added, allowing the passage of material between equipment with different file structures.

As the broadcast industry increasingly adopts file-based technology, an ever-greater amount of material is being delivered electronically. No more tapes in the post! Mediator allows files to be delivered directly onto the broadcast servers via its Upload feature.

The value of a stored asset can also be increased by adding components such as extra audio tracks, languages, subtitles and audio description files. Home-workers can access content securely, delivering (for example) remote compliance for their native language over the net without the cost and inefficiency of generating and mailing VHS copies. Archived content can be repurposed after use, removing the need for re-ingest.

Mediator allows all ingested content to be catalogued, researched, loaned and shared between users, providing true collaborative working. Content can also be outgusted to any selected format, such as complete programmes on DVD for internal distribution or music compilations for post-production. Multiple client libraries can be configured to provide security and privacy for clients without the expense and complexity of separate hardware for every client.

4 Asset management in action

Many key broadcasters have embraced the new technology and are advancing to an entirely file-based operation. Mediator is playing a central part in this migration. Pharos has established a partnership relationship with its customers to ensure that the benefits of the file-based workflow are maximised. Two key customers are Technicolor Network Services and Channel 4.

At Technicolor Network Services UK, part of the Services division of Thomson, Pharos Mediator plays a central role providing workflow management which integrates asset tracking, rules management, reporting and status. Mediator is used to implement workflow across the company's increasingly international and therefore multi-language playout facility at Chiswick Park, London. The new facility went on air with eight 1+1 resilient channels and capacity to add more than 30 extra channels.

Channel 4 Television, consistently one of Britain's most innovative broadcasters, recently chose Pharos Communications to provide the infrastructure for a major advance in the network's operations. Designated the Media Access Project, the new installation will centre on Mediator and will enable Channel 4 to migrate from its videotape-based library to a file-based content archiving and access system. A key feature of this installation will be the ability to outgest in multiple formats.

5 Gearing up for a multi-format market

File-based media asset management delivers enormous operational benefits but its advantages don't stop there. The number of broadcast television channels expanded enormously when cable and satellite transmission began to compete with the established terrestrial infrastructure. The 'transmission tree' is now sprouting new branches, each of which is likely to become very big business, with the rollout of high definition, of IP-based delivery and of cellular mobile television viewing. Repackaging programme content to suit new markets and reformatting files to suit new delivery platforms are both far easier from a well-managed server-based system than from any manually-controlled tape archive. Mediator enables broadcasters to grow their business in line with expanding demand for their content.