

QUESTION ITU-R 34-2/6*

File formats and transport for the exchange of audio, video, data and metadata materials in the professional television and large screen digital imagery (LSDI) environments

(2002-2007-2009)

The ITU Radiocommunication Assembly,

considering

- a) that storage systems based on information technology, including data disks and data tapes have already started to penetrate all areas of the professional television environment; production, non-linear editing, play-out, post-production, distributed production, archiving, contribution and distribution;
- b) that future TV production environments will increasingly incorporate systems from the Information Technology (IT) world such as networks, and server systems;
- c) that applications for professional TV and LSDI are being increasingly based on software which generally handle content in file form;
- d) that file exchange does not introduce additional picture and sound quality degradation if, for example, the compressed audio and video accommodated in the file body is transferred in its original, compressed form;
- e) that file exchange can be adapted easily to the available channel bandwidth so that user can trade-off transfer-bandwidth versus transfer-time;
- f) that metadata, audio, video, data essence and ancillary data can be transferred in a common file;
- g) that metadata, audio, video, data essence and ancillary data can be stored and transferred as independent files with provision for later synchronization;
- h) that the technology of file formats and file exchange offers significant advantages in terms of operating flexibility, production flow, station automation, economy;
- j) that the interoperability within and between content management systems is an essential user requirement and demands interoperable file formats and transport mechanisms for the exchange of Content and Assets;
- k) that the application of metadata exchange (i.e. in TV production) requires support of existing specifications on metadata;

* This Question should be brought to the attention of ITU-T Study Group 9 and the ISO/IEC JTC1 SC29 Working Group 11.

- l) that compatibility with both binary and XML metadata transport protocols needs to be considered;
- m) that the adoption of a small number of interoperable file formats for signal exchange would greatly simplify the design and operation of equipment and remote studios;
- n) that interoperability and conformance testing are simplified when a single coding construct is specified for each compression standard;
- o) that many world broadcasters have already deployed systems based on file formats;
- p) that Recommendation ITU-R BT.1775 “File format with editing capability, for the exchange of metadata, audio, video, data essence and ancillary data for use in broadcasting” defines the editable file format and the generic container;
- q) that many applications from multiple manufacturers rely on file exchange which are in an interoperable format;
- r) that some file formats may not meet all future user requirements and for that reason new development may be required to meet specific users needs,

decides that the following Questions should be studied

- 1 What are the user requirements and potential category of requirements for carrying programme and programme genres for the exchange of audio, video, data and metadata encapsulated in a file format in the professional television and LSDI environments?
- 2 What structure of file formats will best serve the future needs of users, while desirably maintaining interoperability with existing deployments?
- 3 What degree of extensibility can be achieved while maintaining backward compatibility?
- 4 What will be the design of the encoders and decoders which would be utilized for interchange of metadata, audio, video, data essence and ancillary data?
- 5 What digital interfaces should be specified for transport of the file format(s) for interchange of metadata, audio, video, data essence and ancillary data?
- 6 What independent video/audio search capability will be required to assist asset management during and following interchange of the file?
- 7 What operational considerations will be required by broadcasting organizations for the interchange of audio, video, data essence and ancillary data?

further decides

- 1 that ITU-R Study Group 6 should continue to monitor the standardization work of other organizations with regard to file formats and transport mechanisms, and that appropriate existing and future file formats should be proposed for adoption by the ITU-R;