QUESTION ITU-R 34-4/6[[1]](#footnote-1)

File formats and transport for the exchange of audio, video, data and metadata materials in the professional broadcast environments

(2002-2007-2009-2019-2023)

The ITU Radiocommunication Assembly,

considering

*a)* that storage systems based on information technology, including cloud storage, 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 sound broadcasting 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 audio, video, data and metadata can be stored and transferred in a common file;

*g)* that audio, video, data and metadata can also 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 a workflow in professional broadcast environments;

*i)* that the interoperability within and between content management systems is an essential user requirement for the exchange of content and assets;

*j)* that the application of metadata exchange in TV and sound production requires support of existing specifications on metadata;

*k)* that compatibility with both binary and XML metadata transport protocols needs to be considered;

*l)* that the adoption of a small number of interoperable file formats for the exchange of broadcast content would greatly simplify the design and operation of equipment and facilities;

*m)* that interoperability and conformance testing can be simplified when a single coding method is specified;

*n)* that many broadcasters have already deployed systems based on file formats;

*o)* that many applications provided by multiple vendors rely on interoperable file formats;

*p)* that it is desirable that file formats meet future user requirements,

recognizing

*a)* that Recommendation ITU-R BT.1775 defines the editable file format and the generic container for the exchange of metadata, audio, video and data;

*b)* that Recommendations ITU-R BS.1352 and ITU-R BS.2088 specify file formats for the exchange of audio programme materials with metadata,

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 sound broadcasting 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 audio, video, data and metadata?

5 What digital interfaces should be specified for transport of the file format(s) for interchange of audio, video, data and metadata?

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 and metadata?

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;

2 that the study should also include a consideration of integration and migration strategies for legacy, established and future file formats;

3that the results of the above studies should be included in Report(s) and/or Recommendation(s);

4 that the above studies should be completed by 2027.

Category: S2

1. This Question should be brought to the attention of ITU-T Study Group 9 and the ISO/IEC JTC1 SC29 Working Group 11. [↑](#footnote-ref-1)