International Telecommunication Union

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Usage Guidelines for the Audio Definition Model and Multichannel Audio Files

BS Series

Broadcasting service (sound)

International Telecommunication Union

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***Note**: This ITU-R Report was approved in English by the Study Group under the procedure detailed in Resolution ITU-R 1.*

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REPORT ITU-R BS.2388-0*

Usage Guidelines for the Audio Definition Model and Multichannel Audio Files

(2015)

1 Introduction

Recommendation ITU-R BS.2076 – The Audio Definition Model (ADM), is an open common metadata model for describing the technical format and content of audio files and streams. It primarily uses XML as its format language, and has been designed for incorporation into RIFF based audio files including those according to Recommendation ITU-R BS.2088 – Long-form file format for the international exchange of audio programme materials with metadata on information technology media (BW64). The model can be converted to other languages, such as JSON, should the need arise; and also be used in conjunction with other file or stream formats.

This document describes a set of typical use cases for the ADM and WAV-based files as well as recommended practices and commonly-used channel-based configurations. As the ADM is very flexible in how it can be used, it is possible to generate metadata that may prove difficult to interpret, therefore following the guidelines in this document will encourage consistent use by all.

As use of the ADM and BW64 increases more use cases and practices will appear, so this report should be kept up to date with any new requirements. The potential areas that may need guidelines are interoperation with streaming formats and renderers.

2 Use Cases

Recommendation ITU-R BS.2076 – The Audio Definition Model, lists a set of use cases that provides a general guide for the use of the model:

The use of the ADM is recommended especially for the following use-cases:

– For applications requiring a generic metadata language for custom/proprietary formats (including codecs), or in the case where no metadata exists to describe what is needed.

– For generating and parsing audio metadata with existing general-purpose tools.

– Where experimental metadata can easily be added for an organisation’s internal developments and where a human-readable and hand-editable file for describing audio configurations (such as describing a mixing studio channel configuration) in a consistent and translatable format is needed.

– In WAV-based environments and workflows, where WAV-based broadcast applications wish to upgrade to be able to handle immersive content, while maintaining forward compatibility and handle legacy content.

– For archiving of WAV-based content that also may include an extensive immersive metadata set.

As these use cases are quite general, a more specific and detailed set is required to enable a set of useful guidelines. The following sub-sections describe a set of typical practical use cases.

* Radiocommunication Study Group 6 made editorial amendments to this Recommendation in October 2016 in accordance with Resolution ITU-R 1.