Matroska Media Container Chapter Codecs Specifications

Abstract

   This document defines common Matroska Chapter Codecs, the basic
   Matroska Script and the DVD inspired DVD menu.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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   at any time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on 12 April 2022.

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1. Introduction

TODO

2. Status of this document

This document is a work-in-progress specification defining the
Matroska file format as part of the [IETF Cellar working group](#). It
uses basic elements and concepts already defined in the Matroska
specifications defined by this workgroup.

3. Security Considerations

Tag values can be either strings or binary blobs. This document
inherits security considerations from the EBML and Matroska
documents.

4. IANA Considerations

To be determined.

5. Notation and Conventions

The key words "**MUST**", "**MUST NOT**", "**REQUIRED**", "**SHALL**", "**SHALL NOT**",
"**SHOULD**", "**SHOULD NOT**", "**RECOMMENDED**", "**NOT RECOMMENDED**", "**MAY**", and
"**OPTIONAL**" in this document are to be interpreted as described in
BCP 14 [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all
capitals, as shown here.

6. Matroska Chapter Codecs

TODO

6.1. Matroska Script (0)

This is the case when ChapProcessCodecID = 0. This is a script
language build for Matroska purposes. The inspiration comes from
ActionScript, javascript and other similar scripting languages. The
commands are stored as text commands, in UTF-8. The syntax is C

like, with commands spanned on many lines, each terminating with a
";". You can also include comments at the end of lines with "//" or
comment many lines using "/* */". The scripts are stored in
ChapProcessData. For the moment ChapProcessPrivate is not used.

The one and only command existing for the moment is
GotoAndPlay(ChapterUID);. As the same suggests, it means that,
when this command is encountered, the Matroska Player **SHOULD** jump to
the Chapter specified by the UID and play it.

6.2. DVD menu (1)

This is the case when ChapProcessCodecID = 1. Each level of a
chapter corresponds to a logical level in the DVD system that is
stored in the first octet of the ChapProcessPrivate. This DVD
hierarchy is as follows:

ChapProcessPrivate	DVD Name	Hierarchy	Commands Possible	Comment
0x30	SS	DVD domain	-	First Play, Video Manager, Video Title
0x2A	LU	Language Unit	-	Contains only PGCs
0x28	TT	Title	-	Contains only PGCs
0x20	PGC	Program Group Chain (PGC)	*	
0x18	PG	Program 1 / Program 2 / Program 3	-	
0x10	PTT	Part Of Title 1 / Part Of Title 2	-	Equivalent to the chapters on the sleeve.
0x08	CN	Cell 1 / Cell 2 / Cell 3 / Cell 4 / Cell 5 / Cell 6	-	

Table 1

You can also recover wether a Segment is a Video Manager (VMG),
Video Title Set (VTS) or Video Title Set Menu (VTSM) from the
ChapterTranslateID element found in the Segment Info. This field
uses 2 octets as follows:

1. Domain Type: 0 for VMG, the domain number for VTS and VTSM

2. Domain Value: 0 for VMG and VTSM, 1 for the VTS source.

For instance, the menu part from VTS*010*.VOB would be coded [1,0] and the content part from VTS*023*.VOB would be [2,1]. The VMG is always [0,0]

The following octets of ChapProcessPrivate are as follows:

Octet 1	DVD Name	Following Octets
0x30	SS	Domain name code (1: 0x00= First play, 0xC0= VMG, 0x40= VTSM, 0x80= VTS) + VTS(M) number (2)
0x2A	LU	Language code (2) + Language extension (1)
0x28	TT	global Title number (2) + corresponding TTN of the VTS (1)
0x20	PGC	PGC number (2) + Playback Type (1) + Disabled User Operations (4)
0x18	PG	Program number (2)
0x10	PTT	PTT-chapter number (1)
0x08	CN	Cell number [VOB ID(2)][Cell ID(1)][Angle Num(1)]

Table 2

If the level specified in ChapProcessPrivate is a PGC (0x20), there is an octet called the Playback Type, specifying the kind of PGC defined:

  *0x00: entry only/basic PGC

  *0x82: Title+Entry Menu (only found in the Video Manager domain)

  *0x83: Root Menu (only found in the VTSM domain)

  *0x84: Subpicture Menu (only found in the VTSM domain)

  *0x85: Audio Menu (only found in the VTSM domain)

  *0x86: Angle Menu (only found in the VTSM domain)

  *0x87: Chapter Menu (only found in the VTSM domain)

The next 4 following octets correspond to the User Operation flags in the standard PGC. When a bit is set, the command **SHOULD** be disabled.

ChapProcessData contains the pre/post/cell commands in binary format as there are stored on a DVD. There is just an octet preceding these data to specify the number of commands in the element. As follows: [# of commands(1)][command 1 (8)][command 2 (8)][command 3 (8)].

More information on the DVD commands and format on DVD from the [DVD-Info] project.

7. Normative References

[RFC2119]   Bradner, S., "Key words for use in RFCs to Indicate
            Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/
            RFC2119, March 1997, <https://www.rfc-editor.org/info/
            rfc2119>.

[RFC8174]   Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC
            2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174,
            May 2017, <https://www.rfc-editor.org/info/rfc8174>.

8. Informative References

[DVD-Info] "DVD-Video Information", , <http://dvd.sourceforge.net/
            dvdinfo/>.

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