

# Status Of **CELLAR** **MATROŠKA**

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Codec **E**ncoding for **L**oss**L**ess **A**rchiving  
and **R**ead-time transmission

# History of MATROŠKA

- Started in 2012 ago to store live TV captures
- Fork from MCF community project
- Borrowed from AVI, Ogg, XML, Semantic Web
- H264/H265, VP8/VP9, AC3, DTS, Opus came later
- Adopted by Google/Mozilla for WebM (VP8/VP9 + Vorbis/Opus)
- Widely supported by OSS players, Windows 10, Blu-Ray players & Smart TVs
- Recent additions: 360 videos and HDR metadata

# CELLAR Working Group

<https://datatracker.ietf.org/wg/cellar/about/>

- Mailing List  
<https://www.ietf.org/mailman/listinfo/cellar>
- GitHub for EBML specifications  
<https://github.com/Matroska-Org/ebml-specification>
- GitHub for Matroska specifications  
<https://github.com/Matroska-Org/matroska-specification/>
- IETF Documents are generated from Markdown and XML files
- XML semantic can be used to generate code
- Include all WebM parts

# Milestones Update

**April 2017** EBML specification submitted

<https://datatracker.ietf.org/doc/draft-ietf-cellar-ebml/>

**July 2017** Matroska v3 specification submitted

<https://datatracker.ietf.org/doc/draft-lhomme-cellar-matroska/>

**Sep. 2017** Matroska v4 specification to be submitted

# EBML Status

- Close to final
- Currently 0 Pull Request
- Currently 4 issues remain
  - 2 text clarifications on how to handle junk/invalid data
  - DocType value 0 for experimental formats
  - 1 addition for EBML in readable text (XEBML)
- Comments needed on readability of the text

# MATROŠKA Status

- Matroska specification is a huge task
- 243 elements, 33 deprecated, some depend on others
- Currently 7 Pending Pull Requests
  - 3 text clarifications (chapters, how to define a codec mapping, fonts)
  - 3 codec definitions
  - 1 text formatting (documentation splitting)
- Currently 22 Issues remain
  - 8 text clarifications
  - 6 format additions
  - 3 text formatting
  - 5 codec definitions

# Matroska Work Ahead

- Work on conformance test files
- Proposed moving codec mapping their own documentation
- Proposed moving tags in their own documentation
- Improve specification corner cases
  - Chapters (misc. multiple values clarifications)
  - How to handle fonts properly/safely
  - Tags (how/when to use custom ones)

# Matroska Additions

- define EBML/Matroska in text format (XEBML)
- LUT (Look Up Table for colors)
- remove unused encryption elements (some are in WebM)
- new language tag to cover all RFC 5646
- new codec ID prefixes (logo, complex and control tracks)
- new Timecode track type/codecs
- might become version 5 of Matroska



**Thank You**