

CELLAR 2016

**Codec Encoding for LossLess Archiving
and Real-time transmission**

IETF 96 Berlin

19 July 2016

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Agenda

10 min Administrivia

60 min EBML + Matroska (draft-lhomme-cellar-ebml-00, draft-lhomme-cellar-matroska-00)

30 min FFV1 (draft-niedermayer-cellar-ffv1-00)

20 min Participation and work moving forward (including FLAC, advice for new IETF participants, getting commitments to work on various specs, etc)

Administrivia

Blue sheets

Jabber scribe

Jabber room: `xmpp:cellar@jabber.ietf.org?join`

Minute-taker

Etherpad:

<http://etherpad.tools.ietf.org:9000/p/notes-ietf-96-cellar?useMonospaceFont=true>

PDF of meeting materials

<https://datatracker.ietf.org/meeting/96/agenda/cellar-drafts.pdf>

The CELLAR origin story

Working group formed in late 2015

Chairs: Tessa Fallon, Tim Terriberry

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

Mission: “Using existing work done by the development communities of Matroska, FFV1, and FLAC, the Working Group will formalize specifications for these open and lossless formats.”

About those milestones...

Date	↕ Milestone
Dec 2016	Submit specification for FLAC audio codec to IESG (Standards Track)
Sep 2016	Submit specification for FFV1 video codec version 4 to IESG (Standards Track)
Jul 2016	Submit specification for Matroska container format version 4 to IESG (Standards Track)
Jul 2016	Submit informational specification for FFV1 video codec versions 0, 1 and 3 to IESG for publication
Jun 2016	Submit specification for EBML to IESG (Standards Track)
Jun 2016	Submit informational specification for Matroska container format versions 1, 2 and 3 to IESG for publication

Working Group Charter: Deliverables

Info. spec for Matroska container format v. 1, 2 and 3 to IESG for publication

Standards Track spec for Matroska container format v. 4 to IESG for publication

Info. spec for FFV1 video codec versions 0, 1 and 3 to IESG for publication

Standards Track spec for FFV1 video codec version 4 to IESG for publication

Standards Track spec for FLAC audio codec to IESG for publication

Matroska, EBML

Steve Lhomme

State of the Spec: EBML

EBML Draft RFC

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

GitHub Repository

<https://github.com/Matroska-Org/ebml-specification>

State of the Spec: Matroska

RFC Draft

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

GitHub Repository

<https://github.com/Matroska-Org/matroska-specification>

Current Issues

Timecode vs Timestamp wording

EBML spec reordering to define things gradually

Parts to be removed from Matroska (codecs, menus, etc)

Explain what to do in EBML when "attacks"/bad data are detected

How to store Timecodes (see ongoing discussion in the mailing list)

Should deprecated/legacy elements be included in the RFC, maybe as an annex so people are not tempted to reuse these IDs ?

Remove Default/Range when they have no values to reduce the amount of text that is meaningless.

Upcoming Work

Edit/review Matroska and EBML drafts

Post questions/comments/inquiries/relevant manifestos on the CELLAR list

Formatting

Adherence to IETF protocol/guidelines

Adding the 2 encryption elements from Google in Matroska to support Widevine DRM properly

Changing the specification format to remove "levels" and use the parent name instead

FFV1

Jérôme Martinez

State of the Spec

Draft RFC

<https://datatracker.ietf.org/doc/draft-niedermayer-cellar-ffv1/>

GitHub Repository

<https://github.com/ffmpeg/ffv1>

What's been done...

Since January 2016:

- Switch from Lyx text format to Markdown (better known)

- More details about the frame header, definition of the bitstream for planes and lines

- Creation of an independent FFV1 implementation checker, from scratch (no reuse of the original FFV1 encoder/decoder)

What needs to be done...

Specification improvement based on feedback from peer review

More test files, including buggy (from real life or home made) files

FFV1 version 4, based on new features requested by users (e.g. bayer filter support) and compression performance improvement (e.g. motion compensation)

Moving Forward

Moving Forward

1. Next meeting: Chicago, March 2017?
2. Goals for the rest of 2016?
3. New milestones
4. Document shepherding assistance/management
5. Outreach to encourage participation
6. More reviewers, more editors, more contributors!
7. An End to FLAC Neglect