7 November 2023

IETF 118
draft-ietf-mlcodec-opus-extension

I E T F®

Opus Packet Format (not to scale)

TOC Byte
(code 3)

Padding Bit

Opus Frame
Length(s)

Padding
(extensions
go here)

Frame
Count Byte

Padding
Length
(variable)

Compressed
Opus Frames
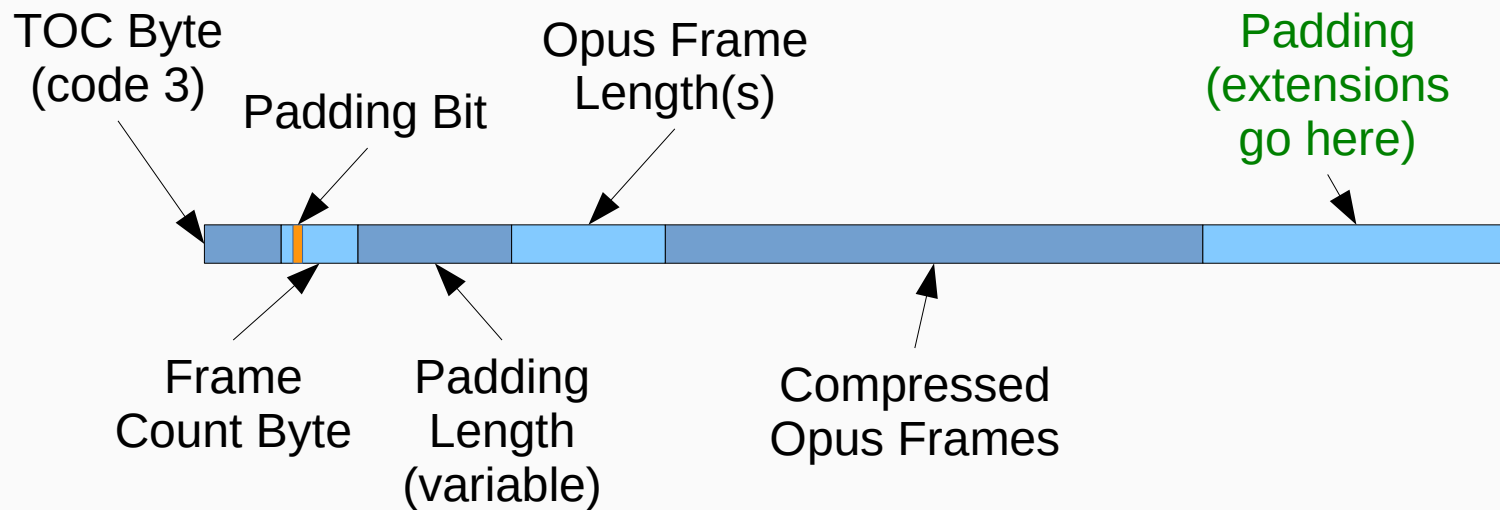
Opus Extension Format

3
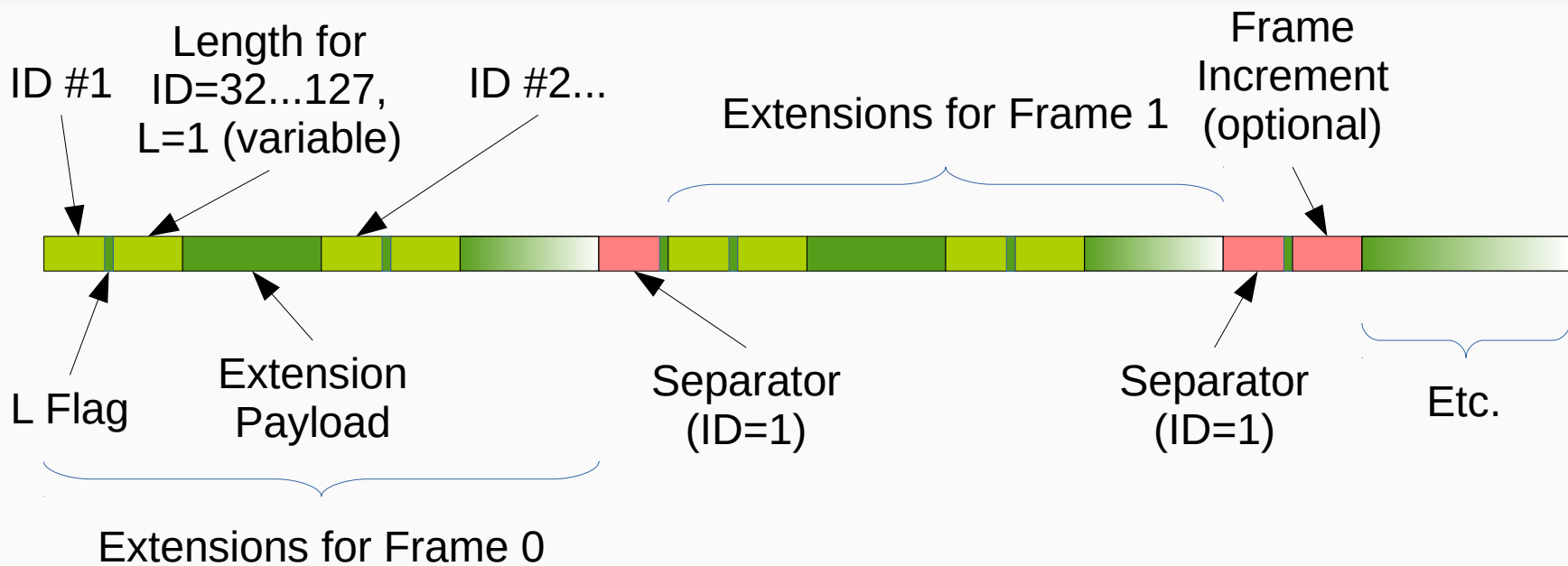
Draft Status

- Published as WG draft

  - 00 with no changes from individual draft

  - 01 with updates

Updates Since San Francisco

- Reserved ID 127 for more extensions

  - Length coded same as IDs 32...126 so it can be skipped

  - Contents subject of future draft
- Quoted text from RFC 5576 Section 6.3: "...media-level format parameters MUST NOT be carried over blindly."
- Clarified support for extension IDs 0 and 1 does not need to be explicitly signaled via a=fmtp
- Asked extensions to specify whether or not they can appear multiple times for the same frame in a packet
- Various other minor edits

Two Future Extension Mechanisms?

- ID=0, L=0:
  - Encoder MUST set rest of the padding to zero
  - Decoder MUST ignore rest of the padding
  - Same rules that let us add these extensions
    - Can be extended recursively
    - Would have to repeat separator bytes to assign extensions to individual frames
- ID=127
  - Has a defined length
    - Can be skipped and mixed with other extensions
  - Can re-use this draft's separator structure to assign extensions to individual frames

Changes Not Made

- Did not split out IANA registration for L=0 and L=1 modes for IDs 2...31

  - Need to decide if we want to, because of a=fmtp signaling

- Did not switch to QUIC varint for extension IDs

  - Reduces available 1-byte extension IDs from 118 to 30

- Did not reserve "unsafe" extension IDs (e.g., throw away all extensions unless you understand these)

  - No clear use cases

Questions?

- Comments?
- Other feedback?