Scalable Quality Extension for the Opus Codec (Opus HD)

`draft-ietf-mlcodec-opus-scalable-quality-extension-01`

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IETF 124

Opus HD Summary

- Extension that lifts some limits of the Opus bitstream
  - Support > 8 bits band-wise depth
  - Support for > 20 kHz bandwidth
  - Bitrate up to ~500 kb/s per channel
- Compatibility
  - Keep forward and backward compatibility with RFC6716

Since IETF 123

- Mostly stable
  - No decoder changes – previous testvectors still pass
  - Minor encoder tuning/fixes
  - No further changes planned (unless issues found)
- Draft adopted as WG item
- Implementation landed in main branch
- Filed IPR declaration

Conformance (Reminder)

- Testvector material (96 kHz, floating point)
  - 3 synthetic clips (sine sweep, noise, pulses)
  - 1 speech, 2 music clips (synthetically extended to 96 kHz)
- Strict decoder conformance test
- Encoder is non-normative, but we include optional test

Status

- Running code
  - Landed in main on https://gitlab.xiph.org/xiph/opus/
  - Achieves -115 dB THD+N (AP test) at 480 kb/s/channel
  - Test vectors (based on float implementation) at https://media.xiph.org/opus/ietf/opushd_testvectors.tar.gz
  - qext_compare tool working
  - Fixed-point implementation passes testvectors

Next

- Propose to standardize in the same way as RFC 6716
  - Text description + normative code
  - Verified with testvectors and compare tool
- Where to publish data?
- Anything else?