Guidelines for proposed codec Working Group

draft-valin-codec-guidelines-02.txt

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Introduction

- This is how we propose to do codec work within the IETF if a WG if formed
  - Starting point for defining the final procedure
  - Not overriding standard IETF procedures
- Just a summary: for details, refer to the draft
- This is not the requirements
  - Refer to draft-valin-codec-requirements-02.txt
Proposed Process

0) Not a rubber-stamping exercise – contributors must cede change control to the IETF

1) Identify requirements

2) Solicit codec contributions as input (with IPR disclosure)

3) Iteratively improve requirements based on received contributions

4) Evaluation contributions strengths, weaknesses of whole codec and parts
Proposed Process (cont.)

5) Choose starting point for development, based on one or more codecs (no final decision)

6) Iteratively improve/rewrite/replace each component of the codec. Any kind of change is allowed provided it helps meet the requirements. Any interested party can contribute to the development.

7) Collaboration with other WGs (transport, AVT, SIP, etc)

8) Characterization of final codec
Evaluation, Testing, Characterization

- Continuous testing (during development)
  - Informal tests
  - Objective measurements
- Testing by 3rd parties (“Internet community”)
  - Encourage 3rd parties to implement work-in-progress
  - Includes a wide range of conditions
- Formal characterization of final codec
  - Quality evaluation
  - Packet loss robustness evaluation
Specification/Conformance

- Specify behavior required for interoperability
- Complete reference implementation corresponding to the “best known implementation”
- No mandated “bit exact” definitions except where needed for interoperability reasons
  - Provide conformance testing tools
  - Provide test vectors
Intellectual Property

• Should be easily distributable, with as few restrictions as possible. Subject to BCP 78 and BCP 79:

  “In general, IETF working groups prefer technologies with no known IPR claims or, for technologies with claims against them, an offer of royalty-free licensing”.

• Goal is to have royalty-free (RF) technology
  • Should be distributable without fees or special conditions/restrictions
Intellectual Property (cont)

- We understand that RF cannot be guaranteed
- However, we can maximise the odds
- Given the choice between two technologies, the proposed WG shall prefer unencumbered technology
  - Seek RF licenses when possible
  - Use alternate technology when a license cannot be obtained
  - Use technology that is 20+ years old
Relationship with Other SDOs

- Other SDOs doing audio codecs:
  - ITU-T SG 16
  - MPEG
  - ETSI
  - 3GPP
  - 3GPP2
- No natural monopoly on audio codecs
- Cooperation with other SDOs welcome
Relationship with Other SDOs (cont)


“[T]he IAB considers an essential principle of the protocol development process that only one SDO maintains design authority for a given protocol, with that SDO having ultimate authority over the allocation of protocol parameter code-points; defining the intended semantics, interpretation, and actions associated with those code-points”.

• No harm done here
  • No code-point collision, no label collision
  • Signaling technologies for codec negotiation
  • Transport protocols designed to support any codec