Audio/Video Transport Working Group

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Wednesday Agenda

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● Drafts possibly ready for last call	15
» Repair; format guidelines; H.263+	
● H.263 format parameters in SDP	10
● Generic payload formats	
» Proposals to set the stage	30
» Discussion	90

Thursday Agenda

● RTP payload format for MPEG4	15
● DMIF for RTP/MPEG4	15
● RTP spec and profile issues	40
● Recording RTP in files	10
● RTP as its own IP protocol	20
● FEC payload format	20

Status of RTP

- RFC1889, 1890 published as Proposed Standards in January 1996
- Internet-Draft revisions for Draft Std.
  - Spec is draft-ietf-avt-rtp-new-00.ps,txt
  - Profile is draft-ietf-avt-profile-new-02.ps,txt
- Led to some questions on mailing list
- Plan: Complete revisions, then Last Call for Draft Standard

RTP Payload Formats Etc.

- MPEG2 revision in RFC 2250 (still P.S.)
- IP/UDP/RTP header compression is in IESG Last Call for Proposed Standard (dependencies resolved at this IETF?)
- Last Call at Proposed requested for:
  - JPEG payload format revision
  - BT656 video payload format

Drafts ready for WG last call?

- Options for Repair of Streaming Media
  - draft-ietf-avt-info-repair-03.txt
- Guidelines for RTP payload formats
  - draft-ietf-avt-rtp-format-guidelines-00.txt,.ps
- H.263+ video payload format
  - draft-ietf-avt-rtp-h263-video-01.txt

H.263 format params in SDP

- draft-koskelainen-sdp263-01.txt defines "a=fmtp 34 CIF=4 QCIF=2/URV SAC"
- Includes some features beyond H.263, but not complete for H.263+
- Bandwidth might use "b=" instead
- Need to standardize this before H.263 is useful outside of H.323?

SDP for other formats

- Is design applicable to other formats, or should each specify its own?
- Should we standardize parameter syntax?
- SDP is one part of "generic payload format" problem

Generic Payload Format

- Problem: how to get payload formats defined for hundreds of existing codecs
  - » format namespace not well defined
  - » not practical to standardize format for each
- One answer: generic payload format
  - » generic fragmentation/grouping functions
  - » binding out-of-band format info (e.g. SDP)
- Question: stifles other formats?

Some Issues

- draft-periyannan-generic-rtp-00:
  - » Multiple namespaces still a problem
  - » How is MIME "audio/*codec*" mapped?
- draft-klemets-generic-rtp-00:
  - » How is encoding indicated (e.g. in SDP)?
  - » Is generic adaptation layer possible?
- draft-fleischman-codec-subtree-02:
  - » Also need to indicate what format(s) to use

Two Design Principles

- Deering: flexibility is enemy of interoperability; interoperability is the point of standards
- Avoid variable header formats whenever possible

Advancing RTP to Draft Std

- Can only include features that have interoperable implementations
- May need scalability analysis/simulation (use "reconsideration" Internet-Draft)
- Request IESG Last Call
- Publish as Draft Standard RFC

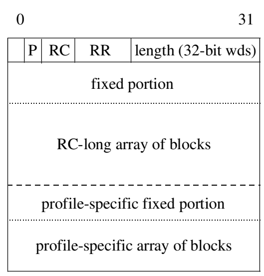
Changes to do on RTP Spec

- Design fudge factor to converge to desired value in timer reconsideration
- Ignore premature timeouts on step leave
- Add factor to correct for low estimate with sampled SSRC algorithm when size decreases
- Define SDP BW modifiers to specify explicit RTCP sender and receiver BW
- Add RTCP minimum interval scaling as a “MAY”
- Specify “relative” NTP uses “best” platform clock
- Specify P-bit padding for RTCP only on last packet

Issues from Mailing List

- Additional SDES items
  - » PHOTO URL, home page URL
  - » Nick-name
  - » Organization
- Request for RTCP RR extensions
- Revising definition of RR “loss fraction”

RTCP RR Packet



RTCP RR App. Extensions

- Request to add application-specific section following profile-specific section
- Identify app by 32-bit FOURCC in first word, registered with IANA
- Presume only one application-specific extension allowed in any RR
- Alternative is to put same info in APP packet -- adds 8 bytes

RTCP RR “loss fraction”

- Currently defined to be over the whole RTCP interval since last report
- Change definition to a shorter interval:
  - » scaled with BW for constant number of bits
  - » constant time (2 minutes? 30 seconds?)
  - » exponential avg with half-life of 128 pkts
  - » filter specified in SDP
- Can we get it “right”?

Advancing Profile to Draft Std

- From Memphis: specify SHOULD use numeric format for CNAME - still agree?
- Allow default 5% RTCP bandwidth to be overridden
- New draft has more complete encoding list and descriptions
- May need changes for generic formats