Audio/Video Transport
Working Group

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Wednesday Agenda

- Introduction and status 15
  » Drafts in process; drafts to act upon
- Status of RTP & H.Multimedia MIB 5
- RTP multiplexing proposals 45
  » Rosenberg, Hoshi, Subbiah
  » Discussion 30
- DMIF for RTP/MPEG4 10
  » Discussion 15
Thursday Agenda

- RTP spec and profile issues 30
  » Registering encodings as MIME types
  » Improvement to SSRC scaling 10
- Update on RTP redundancy mech. 10
- FEC payload format 15
- AVT revised charter bashing 15
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-01.ps.txt
  » Profile is draft-ietf-avt-profile-new-03.ps.txt
- Spec mostly done, Profile needs more
- Plan: Complete revisions, then Last Call for Draft Standard
If you haven’t read it yet...

Please see draft-ietf-avt-rtp-new-01.txt sections:
- Sec 0: Resolution of open issues
- Sec 6.2: RTCP Transmission Interval
- Sec 6.3: RTCP packet send and receive rules
- Appendix B: Changes from RFC1889
- Extra credit: check code in Appendix A
RTP Drafts in Process

- RFCs recently published:
  » 2343: Bundled MPEG payload (Exp.)
  » 2354: Options for Repair (Info.)

- Drafts submitted for publication:
  » IP/UDP/RTP header compression: at IESG
  » JPEG payload format revision: IESG ballot
  » BT656 payload format: in Last Call
  » H.263+ payload format: in AD’s queue
Drafts to act upon

- Guidelines for RTP payload formats
  draft-ietf-avt-rtp-format-guidelines-00.txt,.ps
  » Part of a framework to facilitate continuing long-term development of payload formats
- PureVoice (QCELP) payload format
  draft-mckay-qcelp-01.txt
  » Ready for Last Call?
- Generic payload formats to be merged
Multiplexing: Key Question

Who gets to do the multiplexing?
  » why: common handling, reduce overhead
  » when: separate or bundled?
  » where: what protocol level?
  » how: application specific or general

Points to consider in this discussion:
- Can/should we generalize current proposals?
- Philosophy: keep muxing at one level if possible
RTP Multiplexing

When is mux useful, and how many bits?

» Is multiplexing format a payload type?
» Inband length field or fixed length?
» How many bits of ID per multiplexed user?
» Payloads time aligned, close, or arbitrary?
» CSRC list and extension per user?
» RTCP per user or per multiplexed stream?
» How many users per multiplexed stream?
Recent Changes to RTP Spec

- Added fudge factor \((e - 3/2)\) in timer reconsideration
- Added fix for underestimate with sampled SSRC algorithm when size decreases
- RTCP sender & receiver BW may be parameters
- RTCP min interval may scale smaller for high BW sessions, and zero initial delay for unicast sessions
- Specified P-bit padding for RTCP only on last packet
- Specified “relative” NTP uses “best” platform clock
- Formal ref to IPSEC; spec “codifies existing practice”
- Partial conversion to MUST, SHOULD, MAY
- Last paragraph of introduction deleted
Changes not made

- Ignore problem of group size dropping to zero in “reverse reconsideration”
- No scaling of min RTCP interval larger (could cause timeouts, and not that big a benefit)
- No change to jitter algorithm for multi-packet video frames
- Additional SDES items deferred to IANA registration (e.g. PHOTO URL, Nick-name, Organization)
- No change to definition of RR “loss fraction”
- Nothing about translators adding random offsets
Changes Still Needed

- IANA Considerations section
- Collect more constants into Sec. 11
- Complete MUST, SHOULD, MAY
- Make sure code in appendix is correct
Open Issues for RTP Spec

- Does new wording provide right motivation for sending RTCP?
- Should we have both conditional and unconditional reconsideration?
- Is new Section 6.3 clear and correct requirement level?
- Lucent patent filed on “binning” algorithm for SSRC sampling
Recent Changes to RTP Profile

- PureVoice (QCELP) added as PT=12
- New policy stated: No additional static payload types will be added.
- RED, MP1S, MP2P added to encoding table as “dyn” payload types (RED is no longer PT=77)
- RFC references updated
Changes Still Needed

- Better explain new policy for static payloads
- Allow default 5% RTCP bandwidth to be overridden, and define SDP BW modifiers to specify explicit RTCP sender and receiver BW *(here or RTP?)*
- May need changes for generic formats, but can we proceed without them?
- IANA considerations section
- Complete use of MUST, SHOULD, MAY
En codings as MIME Subtypes

- MIME major type on m= (audio, video)
- What about audio+video types?
- Encoding (subtype) in a=rtpmap
- Registration via profile doc itself?
- What new info is bound to the name for RTP purposes? Just payload format?
- What to do for conflicts with existing types, such as PCMU=audio/basic?
New AVT Charter

- Old charter is way out of date:
  - Last existing milestone is 1993
  - Says only define experimental protocols

- New charter proposed
  - Reflect current state of RTP
  - Set milestones for remaining work
  - Lay out expectations for future work
AVT Work Items [1]

- Revise RTP & profile for advancement to draft std.
  - WG last call in November and submission to the IESG immediately after the December IETF.
  - Register encoding names as MIME subtypes
- Complete the MIB -- "finished" by December
- Finish “guidelines for payload format authors” draft
  - Can probably be ready for last call by December?
- Generic payload format?
  - Proposals to be merged and submitted as draft
  - Discussion in December, revised draft in February
AVT Work Items [2]

- Other payload formats
  - BT656, H.263+, JPEG are done
  - PureVoice audio: last call September 1998
  - Generic FEC: split into parity FEC to last call soon and separate R-S different draft to last call after December meeting.
  - DMIF/MPEG-4: tied in with the generic payload?
  - X protocol streams: off topic?

- Multiplexing protocol
  - Decide course of action at this meeting