draft-wenger-avt-rtp-svc-02.txt

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Changes to Draft

- Editorial improvements
- Updated NAL unit header syntax and semantics according to the latest draft SVC spec
- Updated the NAL unit reordering process for layered multicast
  - removed the old section 14 "Informative Appendix: NAL Unit Re-ordering for Layered Multicast"
  - added the new section 13 "NAL Unit Reordering for Layered Multicast")
- Added section 6.10 "Payload Content Scalability Information (PACSI) NAL Unit"
- Please see IPR statement #736

Editorial Improvements

- Too many to list…
- … still a long way to go :-(

Alignment with draft SVC spec

- We are still shooting at a moving target :-(
- We authors believe the current description is fully aligned with current SVC spec
  - Both in syntax/semantics, and in intention
- Some of the recent AVT email traffic could be read that's not the case…
  - high-level syntax is currently a contentious subject in JVT, especially with respect to a thing known as "simple Priority"
  - JVT considers use cases we believe are not applicable to IETF environments; use case proponents perhaps believe they are
  - Bertrand's email (points 1, 2, 3 and perhaps 7) should be seen in this context
  - Klagenfurt meeting of JVT starting about now :-)

Remember: Dallas Discussion on Cross-Layer DON

- NAL units belonging to different layers need to be resequenced (SVC requirement due to single-loop decoding (among other reasons)
- When different layers are conveyed in different multicast groups, re-sequencing is not possible based on RTP header info
- It may be possible to infer sequencing info from content, but that's tricky to specify and takes a lot of incomprehensible text
- We could mandate DON, but DON has known IPR
- **Question to WG: What to do?**
- **Answer: No real preference in any direction, silence.**

DON mandatory for layered multicast

- Section 13
  - The interleaved packetization mode *must* be used.
  - The DON values of all the NAL units, as specified section 5.5 of RFC 3984, *shall* indicate the correct NAL unit decoding order over all the RTP sessions.

PACSI NAL unit

- Idea: have a sort of "Table of Content" of the content of an Aggregation Packet with respect to layers NAL units belong to
- More specific: indicate scalability characteristics that are common for all the NAL units, so to make it easier for throwing away the whole aggregation packet without parsing it
- *Necessary* when one wants to allow including NAL units from different layers in an Aggregation Packet
  - We need to explain this in more detail in the draft -- next revision
- Concept appears to be generally appreciated in the SVC payload community

Mailing List Traffic

- April 3, 2006: Use of PT as demux point of layers sent in one RTP session (IP/Port/SSRC combo)
  - Proposed to allow meaningful stream thinning of potentially encrypted content (while using a single session)
  - Pushback primarily by Colin -- difficult/unmanageable RTCP problems + using PT as demux point generally a bad idea
  - Not followed up

- July 6, 2006: Bertrand, 7 points
  - Has to be seen in JVT political context
  - Points 1, 2, 3 is on properties and interpretation of SVC draft
  - Point 4: misunderstanding, clarified by Ye-Kui email
  - Point 5: agreement, Point 6: Yes (see slide 6)

Mailing List Traffic

- July 6, 2006: Bertrand, 7 points (cntd.)

  – Point 7: need guidance by WG (coming slides)

- July 7, Jonathon

  – Most comments were, we believe, well addressed by Ye-Kui's reply email, and do not need to be discussed here again. However, the following points need discussion

  – PACSI support with fragmentation -- we authors are still not yet convinced that fragmentation should be supported.

  – End/to/End, MANE, and MDfH (similar to Point 7, Bertrand)

Guidance needed: MANE/MDfH

- Should this draft cover RTP payload header functionalities required for a MDfH?
  - MDfH == middlebox, outside the signaling context, intercepting RTP packets carrying SVC and intelligently thinning stream based on information readily available in RTP payload headers.
- A device that receives a number of RTP sessions (each carrying one layer) and creates a new RTP session (carrying one or more layers) is a Mixer. A Mixer terminates RTP sessions. Correct?

Guidance needed: Fragmentation

- To meaningfully support fragmentation for SVC, we would need to
    - A) Add new aggregation packet structures
    - B) Perhaps allow nested fragmentation
    - C) rework PACSI constraints
- Fragmentation is useful
    - Known MTU size changes along transmission path (and presence of middleboxes that can react to those changes)
    - Content created by a network-unaware encoder
    - Application-layer error control
- Fragmentation is evil
    - Content should (and can) be structured to MTU-size needs
    - Loose a fragment renders all other fragments unusable

Request WG status for draft

Thanks.