

SVC Payload Draft

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SVC draft version 01: Changes

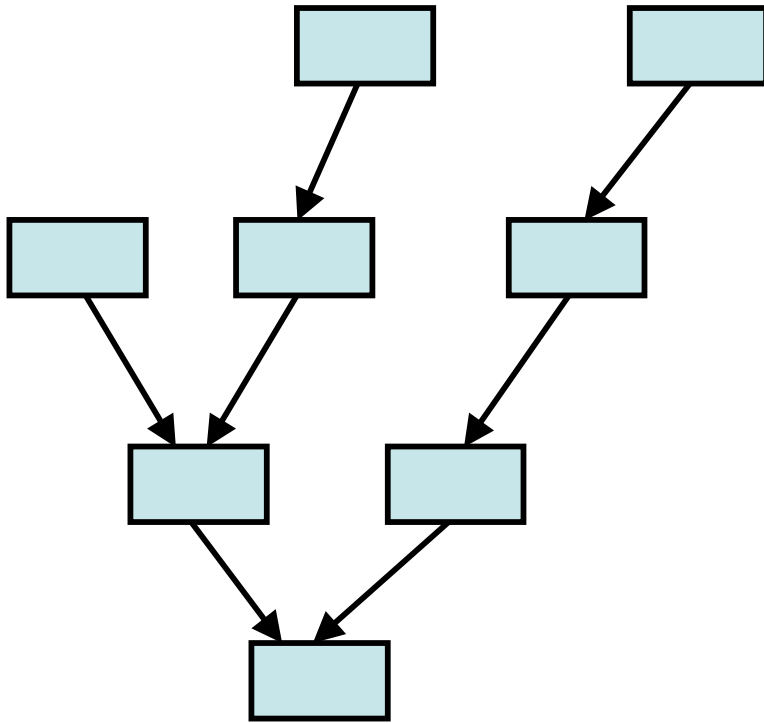
- New Subsection 6.1 "Design Principles"
- New Section 14 "NAL unit re-ordering for layered multicast"
- New Section 15, "Application Examples"
- Additional information and definitions added to at least sections 3.3, 5.1, 7 and 8
- Editorial improvements throughout the document

Open Issue 1: Signaling

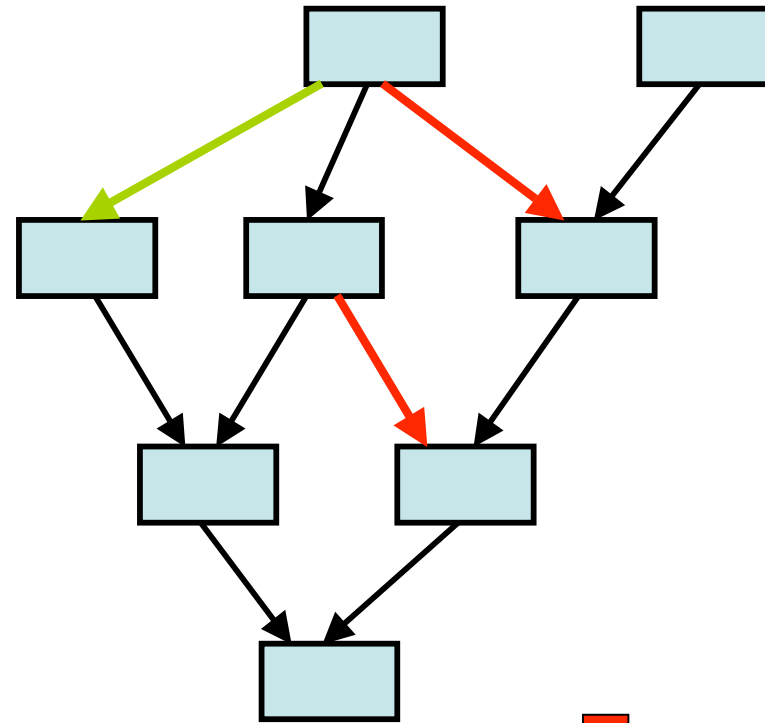
- Guidance from AVT mailing list (Colin)
 - Try to come up with media independent signaling for layered codecs
- Needs to go into a new draft in MMUSIC.
- Work not started.
 - Thomas Schierl (HHI) indicated he's willing to take the lead during/after IETF65
 - Other volunteers, please contact him or me.
- One problem: layering dependencies are not tree-structured

Signaling: layering dependencies

This is possible...



... but this as well



- Possible in SVC
- Not (yet) possible, but could be envisioned

Open Issue 2: Cross-Layer DON

- Cross-Layer DON, see section 14.2 of the draft
 - It may be possible to specify a working solution without DON, at the expense of
 - Document complexity
 - (at least 10 pages of text would be added)
 - Implementation complexity
 - Delay
 - We may not be able to support all scenarios
 - 16 bits per DON required => 16 bits overhead
 - Payload header contains information pertaining to more than one RTP session
 - DON concept has known IPR, see RFC 3984 IPR declarations

Decoding order problem

- Problem
 - Decoder needs NAL units in decoding order
 - To simplify discussion: Assume NAL unit == RTP Packet
 - In layered multicast, NAL units are conveyed in their own RTP sessions, therefore RTP sequence numbers are NOT a suitable ordering criterion
 - Time is NOT a suitable ordering criterion (just believe me :-)
- Solution: Decoding Order Number
 - A (16 bit?) number indicating the decoding order
 - Part of the RTP payload header and/or “Aggregation Headers”
 - Encoder/Sender responsible for creating DONs
 - Need rules for DON vs. RTP packet sequencing
 - Buys us interleaving technology without additional overhead
 - DON is NOT used for error resilience
 - RTP header info plus info in bitstreams sufficient

Open issues 3, 4, 5

Reminders to the Authors

- Need to clarify MANE, Mixers, and Translators throughout the document (consistently with RFC 3550, CCM draft).
- Packetization rules need work once previous bullet is addressed
- Alignment with JVT spec (ongoing)

New Open Issue 6: Per-packet Signaling

- Idea: To make the main scalability info, i.e. the values of DID, TL and QL as in the draft, easily accessible from the RTP packet
 - Fixed position, or
 - In the payload header structure
- For packets carrying only a single NAL unit, perhaps only additional packetization rules are required
- For aggregation (and perhaps fragmentation) packets, we may need additional header structures
- Situation still unclear, more work required
- IPR situation unclear

Thanks