

Video Frame Info RTP Header Extension

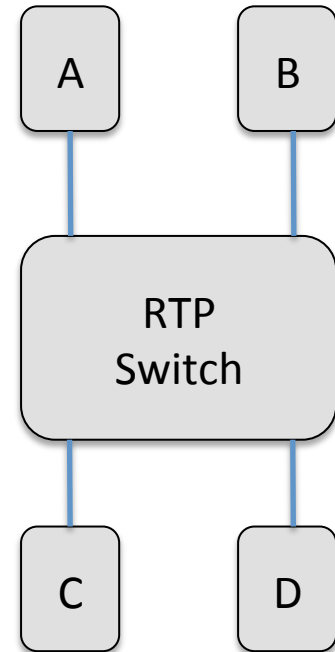
draft-ietf-avtext-framemarking-00

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Main Motivation

Payload-Agnostic RTP Switch

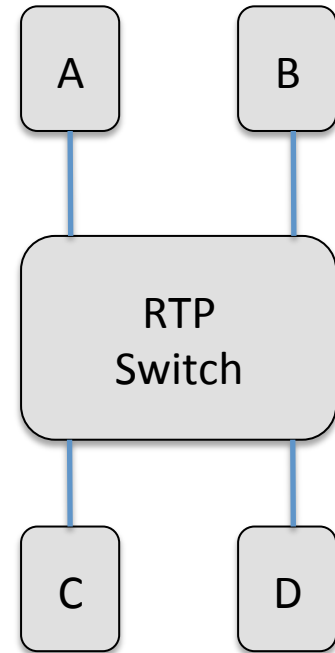
- Payload may be encrypted
 - Avoid decryption cost to improve switch scale and latency
- Payload may be encrypted end-to-end
 - Impossible to decrypt / inspect payload without end-to-end keys
- Payload may be unknown format
 - Codec-agnostic switching can support any format, old or new



More Motivations

Smarter RTP Switch

- Clean video switching at intra-frames
- Better recovery during packet loss
- Drop least important packets during congestion
- Drop scalable enhancement layers for constrained endpoints



Smarter Endpoints

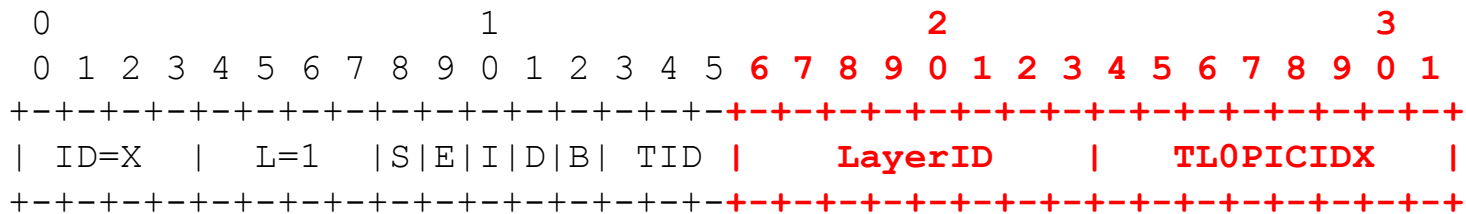
- Better recovery during packet loss

Layer ID Mappings

| 0 | 1 | | | | | | | | | 2 | | | | | |
|---|---|-----|---|-----------|-----|---|---------------------|---------|----|-----|---|---|---|--------------------|------------------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| ID=X | | L=1 | | S E I D B | TID | | 0 0 | LayerId | | | | | | | H.265 |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| ID=X | | L=1 | | S E I D B | TID | | 0 | DID | | QID | | | | | H.264-SVC |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| ID=X | | L=1 | | S E I D B | TID | | 0 0 0 0 0 0 0 0 0 0 | | | | | | | H.264 (AVC) | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| ID=X | | L=1 | | S E I D B | TID | | 0 0 0 0 0 0 0 0 | | | | | | | VP8 | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |
| ID=X | | L=1 | | S E I D B | TID | | 0 0 0 0 | RS | RQ | | | | | | VP9 |
| +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | | | | | | | | | | | | | | | |

Open Issues

- TLOPICIDX
 - Do we need this?
 - If so, should this be an optional byte after LayerID?
- Omit Null Trailing Fields?
 - Omit LayerID and TLOPICIDX if Null?



- RID: How should TID / LID relate to RID?