



structure agnostic packet type with both sequence number and timestamp

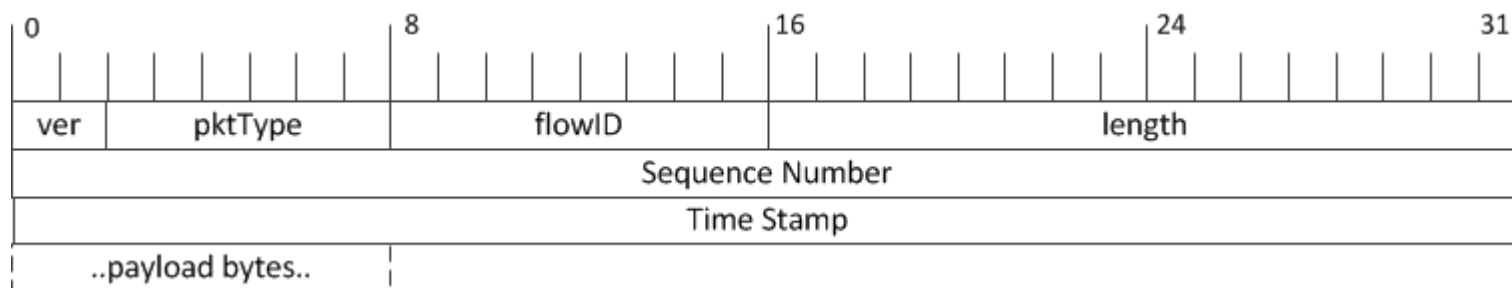
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Background

- ❑ After Hillsboro f2f meeting in 2015 the TF decided to:
 - Remove extended_header as an explicit extension mechanism to the RoE header – instead a new packet type would be defined when needed.
 - Use either sequence number or timestamp in the orderingInfo field for the lifetime of the RoE flow – no mixing of both in one pkt_type once the flow is active.

Proposal

- Introduce a pkt_type for “structure agnostic CPRI” mapper that carries both sequence number and timestamp in the RoE header:
 - This is basically the “extended_header” for pkt_type = 000010b.
 - Timestamp define in D0.3 sub-clause 4.4.5.1.
 - SeqNum defined in D0.3 sub-clause 4.4.5.2.



Proposal cont'd

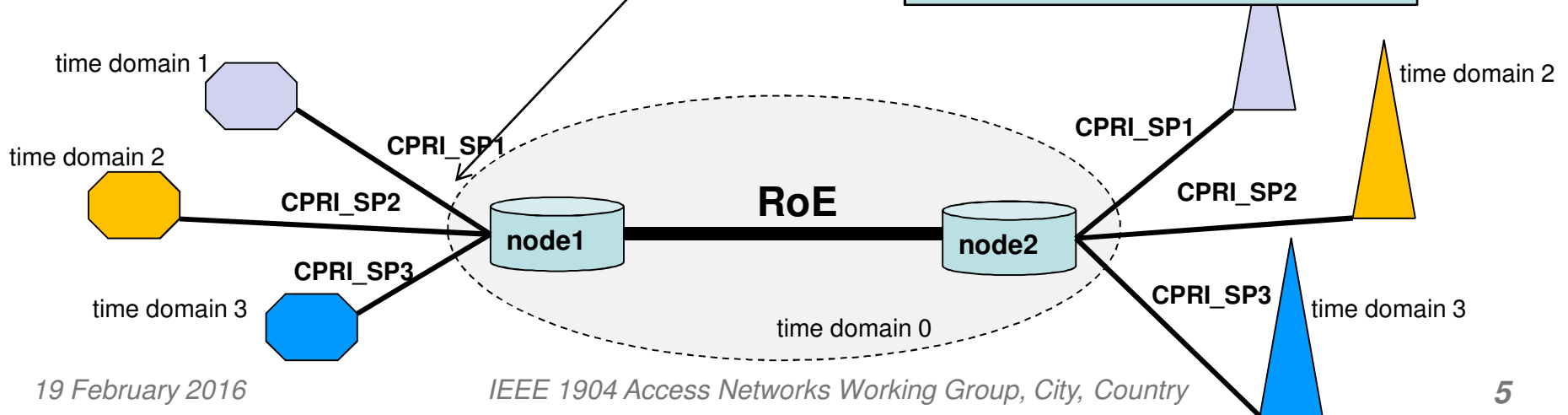
- ❑ structure agnostic CPRI mapper can use two packet types to send basic frames:
 - Existing `pkt_type=000010b` with `orderingInfo`.
 - New `pkt_type=nn` with both `Sequence Number` and `Time Stamp`.
- ❑ The expectation is that the new `pkt_type` is sent infrequently e.g., once in 67us or less frequently depending on the upper layer application.

Use case

- Useful in CPRI->RoE->CPRI deployments, where multiple CPRI flows from different time domains are aggregated over a single Ethernet link.
- Timestamp with seqnum is used to help recovering clocks of time domain “split” over other time domain
- The freq/phase in different time domains may be quite different.. and need adjustments.

Example:

Node1 thinks it has to send a frame it got from node2 forward with RoE sn_69 at local time t_0 . However, the tstamp in RoE packet with sn_69 tells the sending time is t_1 , which means node1 time sync for time domain 1 is off by $t_1 - t_0$.. and node1 has to adjust its PLL accordingly for subsequent frames.



Discussion

Motion

- ☐ Approve as the baseline proposal the new RoE pkt_type and related packet format for carrying both timestamp and sequence number as described in tf3_1603_korhonen_pkt_sn_ts_1.pdf.
- ☐ Jouni Korhonen making the motion
- ☐ Seconded by John Doe
- ☐ Technical motion ($\geq 2/3$)
- ☐ Yes: ____, no: ____, abstain: ____