Comment: this text would belong under the Clause that defines the header format.

1.1 RoE encapsulation common frame format

Tbd.

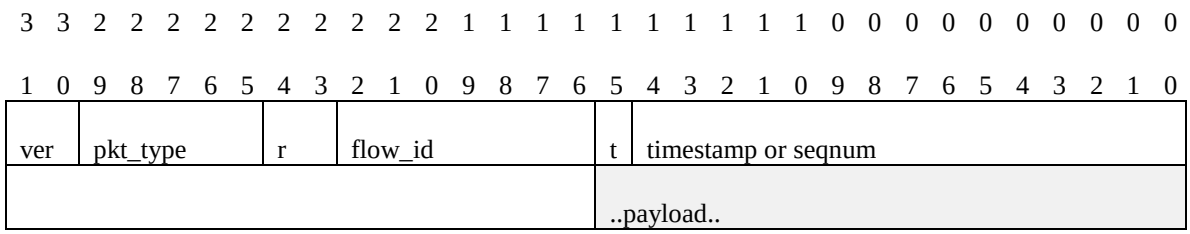

Figure 1: RoE common header fields

1.1.1 ver (version) field

The ver field indicates the RoE header version. This specificatation defines the version 0 (0b00) of the header as shown in Figure 1. Other version values are reserved.

Editor's Note: should state here that future specifications may define new versions of the header and nothing except the version field is fixed. However, radical changes to the header should be avoided.

1.1.2 pkt_type (packet type) field

The pkt_type field contains information of the RoE packet subtype. The pkt_type 0x00 is reserved for RoE protocol control packets.

1.1.3 r (reserved) field

The r field is reserved in the version 0 of the protocol. The field must be set to 0b00 when sending and ignored on reception.

1.1.4 flow_id (flow identifier) field

The flow_id contains the RoE packet flow identifier number. The flow identifier represented as unsigned integer between 0x0 and 0x7f.

The field is used for multiplexing purposes between two RoE endpoints. The flow identifier allows decoupling RoE flow multiplexing from underlying network provided multiplying mechanisms.

1.1.5 t-flag (timestamp enabled) field

The t-flag is used to indicate whether the following 31 bits are interpreted as a timestamp or as a sequence number.

When the t-flag=0b0 then the following 31 bits are interpreted as a RoE packet *sequence number*.

When the t-flag=0b1 then the following 31 bits are interpreted as a *timestamp*.

1.1.6 Timestamp and sequence number fields

Tbd.

1.1.6.1 timestamp

The timestamp field is actually a 31 bit presentation time of the packet at the receiver. The use of timestamp de-couples RoE flow play-out time from network transit time

The reference time is defined to be the International Atomic Time (TAI). The timestamp is in nanoseconds and allows expressing a presentation time 2 seconds to the future.

The timestamp in the RoE header is formed as follows. The actual system time, is for example, taken from the 1588 time. The example below assume 1588 time:

```
1588_time = 1588_current_time + constant_latency_time + dejitter_time;

timestamp = 1588_time.nanosecondsField & 0x3fffffff |
(1588_time.secondsField & 1) << 30;
```

The contant latency time represents the oneway network delay and the required de-jitter delay at the receiver. How the delay is actually measured is outside of scope of this specification.

Tbd.

1.1.6.2 seqnum

The seqnum is a 31 bits packet sequence number field. The sequence number counter is increased by one on every sent packet, also when the t-flag=0b1and the 31 bits field actually carries a timestamp. The seqnum is initialized to 0. This field is to wrap from 0b1111111111111111111111111111111 to 0b0000000000000000000000000000000 (0x7F-FF-FF-FF to 0x00-00-00-00).

1.1.7 Payload

The payload field content is dependant on the RoE packet subtype.

1.2 Allocated pkt_type values

Tbd.

Table 1: RoE packet subtype values

pkt_type in hexadecimal	Function	Meaning
0x00	Control packet	The payload carries TLVs for control purposes. N
0x01	Structure agnostic packet	The content of the payload is unknown at the RoE protocol level. Only the application at using the RoE transport know interpret the payload content.
0x02	Antenna flow	tbd.
0x03	Vendor specific flow	tbd.

0x04	Antenna control	tbd.
0x05	Slow C&M	tbd.

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