



# RoE configuration parameters

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8/11/2015 v2

# Background

- ❑ Referring to agreement in tf3\_1506\_korhonen\_3a.pdf this document proposes:
  - Set of mandatory parameters for RoE configuration.
  
- ❑ Dynamic mechanisms are complementary to static configuration.
  
- ❑ Configuration parameters concentrate on those needed to get the "RoE level" operational.

# RoE configuration parameters

- ❑ Two sets of parameters:
  - Link/connection related that are the same for all mappers and RoE modes.
  - Mapper related (“better” CPRI mapper in this case).
  
- ❑ Parameters can be configured:
  - Manually / out-of-band (default, mandatory).
  - Dynamically using RoE Control Protocol (optinal).
  
- ❑ Implementations may have some (or even most) parameters configured statically.

# Link/connection parameters

- ❑ RoE mode flag:
  - #0 master, #1 slave.
- ❑ RoE versions supported – low and high versions – 2 bits each.
- ❑ RoE connection line bit rate – 32 bits value in Kb/s:
  - E.g. use 2.45Gb/s of a 10Gb/s link for one RoE “connection”.
  - Note! This is different from physical link rate.
- ❑ Use of SN or TS – enumerated value:
  - #0 use both.
  - #1 use only SN.
  - #2 use only TS.
- ❑ SN increment – 32 bits value (from 1 to  $2^{31}-1$ ).
- ❑ Used Mapper – 8 bit value:
  - #0 None -> native RoE.
  - #1 'dummy' CPRI mapper; see [tf3\\_1506\\_korhonen\\_9a.pdf](#)
  - #2 'better' CPRI mapper; see [tf3\\_1506\\_korhonen\\_9a.pdf](#)
  - #3-#255 reserved.
- ❑ Sample length (UL & DL) – 2x 8 bits values:
  - Number of bits per sample.
- ❑ Number of samples per packet – 8 bit value.
  - For native RoE mode.
- ❑ Compression – 8 bit value.
  - #0 no compression between endpoints.
  - #1-#255 selected compression algorithm.

# 'Better' CPRI mapper parameters #1

- ❑ CPRI protocol versions supported – low and high versions – 8 bits each.
- ❑ CPRI line bit rate option – 8 bits value:
  - See CPRI Section 4.2.1.
  - Implicitly determines the **word size** for CPRI mappers as well.
- ❑ Fast C&M bit rate – 32 bits value in b/s:
  - Value of 0 -> not used.
- ❑ Slow C&M bit rate:
  - Value of 0 -> not used.
- ❑ Presence of VSD and bit rate (proportional to fast C&M bit rate) – 32 bits value in b/s:
  - Value of 0 -> not used.
- ❑ Number of BFs in a packet – 8 bits value.
- ❑ Presence of Control AxC Data – a 2 bit flag:
  - 00b – none.
  - 01b – separate flow.
  - 10b – mapped to 'extended header space'.
  - 11b – reserved.
- ❑ Scrambling mode – 4 bits value:
  - #0 – none
  - #1 – CPRI defined
  - #2 – CL49 based
  - #3-15 reserved
- ❑ Mapping method – 4 bits value:
  - #1 and #3 supported
  - #0, #2, #4-15 reserved

## 'Better' CPRI mapper parameters #2

- Other CPRI internal values like  $S$ ,  $K$ ,  $N_c$ , etc are the CPRI application level issue to figure out using their own C&M channels.
  - See e.g. CPRI v6.1 Section 4.2.7.2.4.

# Parameter tree examples

```
roe
+--> version
+--> port
|   +--> slave_master_mode
|   +--> line_rate
|   +-->
+--> mapper
|   +--> mode
|   +--> sample_size
|   +--> number_samples
|   +--> use_sn_ts
|   +--> sn_inc
.
.
```

```
mapper (= 0x02 i.e. "better" CPRI)
+--> version
+--> line_rate
+--> inband_protocols
|   +--> fast_cm_rate
|   +--> slow_cm_rate
|   +--> vsd_rate
|   +--> ctrl_axc_mode
+--> num_bf_per_roe_pkt
+--> scrambling
+--> mapping_method
|
.
.
```

# Motion #

- Approve RoE configuration parameters as presented in tf3\_1508\_korhonen\_roe\_configuration\_parameters\_6.pdf page 4 as the baseline.
  
- John Doe making the motion
- Seconded by Jane Doe
  
- Technical motion ( $\geq 2/3$ )
  
- Yes: 0, no: 0, abstain 0



# Motion #

- Approve CPRI mapper configuration parameters as presented in tf3\_1508\_korhonen\_roe\_configuration\_parameters\_6.pdf page 5 as the baseline.
  
- John Doe making the motion
- Seconded by Jane Doe
  
- Technical motion ( $\geq 2/3$ )
  
- Yes: 0, no: 0, abstain 0