

IETF 118 – CCAMP Meeting

draft-meuric-ccamp-tsvmode- signaling

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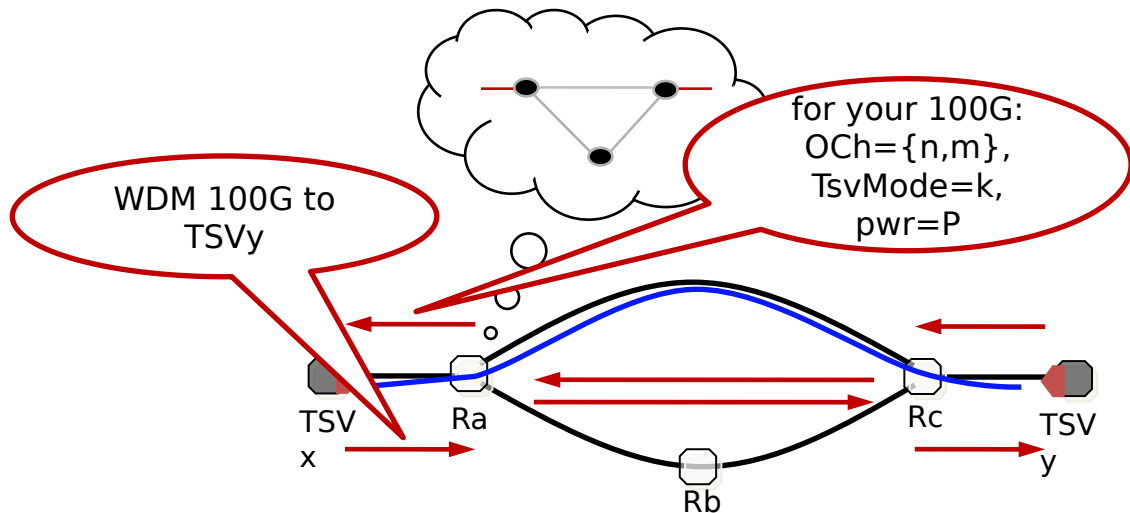
November 9, 2023

Problem Statement

- Some optical transceivers support multiple modulation formats, baud-rates, FECs, etc.
 - a set of values for these parameters is usually referred to as a “**mode**”.
- RWA typically happens **before** the signaling leaves the ingress ROADMs:
 - RWA may rely on embedded path computation or external PCE,
 - The signaling needs to **carry the mode** information down to the egress transceiver.
- In case of alien transceivers (i.e. out of the edge ROADMs):
 - Mode selection may be performed:
 - Statically before ingress transceiver,
 - Dynamically at ingress ROADM, which implies providing some info to the optical line;
 - The selected mode must be exchanged between the line and transceivers at both ends.

Solution Principle

- RSVP-TE Path/Resv convey the required channel info end-to-end
 - I.e. to both the optical line and the egress transceiver
- The 1st Path message may be the path computation trigger (“alien” case)



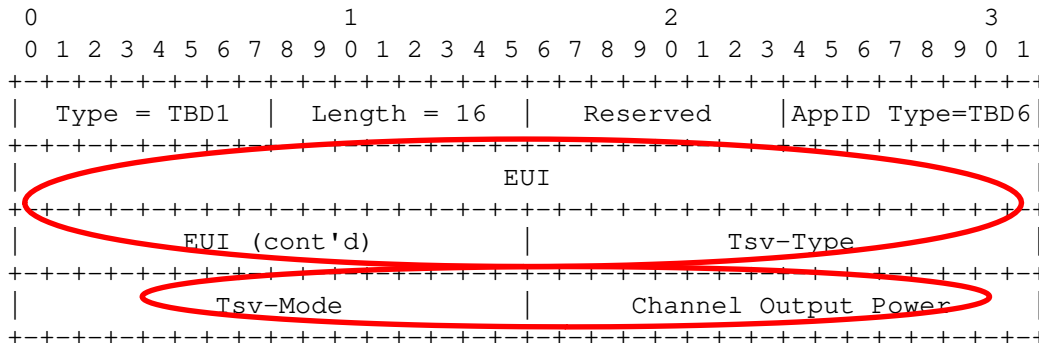
TSVx/TSVy: transceiver shelves; Ra/Rb/Rc: ROADMs

Option 1: Vendor Mode

- The path computation entity (ingress ROADM or external PCE) uses a mapping table containing transceiver info
 - operator-configured or learnt by LMP

Tsv-Type	Tsv-Mode	Parameter Set
Board-X	1	baud-rate=B, modulation=M, symbol-rate=S, FEC-ID=F...
Board-X	2	...
Board-Y	1	...

- Proposed TLV (using *AppID* from draft-ietf-ccamp-dwdm-if-imp):



Hardware descriptive fields

Prescriptive fields

Option 2: Explicit Mode

- RSVP-TE messages carry detailed parameter set
 - instead of opaque identifier to be looked up in a table,
 - enables the optical line to compute a feasible path.
- Proposed TLV will be adjusted to reflect the output from other drafts:
 - *draft-ietf-ccamp-optical-impairment-topology-yang*
 - *draft-ietf-ccamp-dwdm-if-param-yang*
- Some fields may be relevant to...
 - provide transceiver info to line (e.g., Baud-rate, Min OSNR, Carrier Spacing),
 - send back configuration from the line to the transceivers (e.g., power, label).

Main Changes from -03

- *WDM-Transceiver-Param* sub-TLV
 - Put a description on the previously added attributes (which are consistent with *draft-ietf-ccamp-optical-impairment-topology-yang*),
 - Include a place-holder for optional sub-TLVs
- Update references
- Upgrade to XML2RFC v3

Next Steps

- Keep alignment on other CCAMP work
 - Should remain complementary to YANG modules
- Expand relevant attributes from draft-ietf-ccamp-optical-impairment-topology-yang into sub-TLVs for option 2
 - Most of them are already stable enough
- Request WG adoption