IETF 103 – CCAMP WG

Optical interface parameters for an external transponder in a WDM network: LMP and Yang

draft-dharinigert-ccamp-dwdm-if-lmp-08

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draft-dharini-ccamp-dwdm-if-param-yang-06

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LMP Considerations

- LMP covers the discovery/parameter-negotiation use case
- LMP is not used for configuration or provisioning and there is no mentioning of configuration or provisioning in these drafts
- Discovery determines the limitations of the single channel interface to a WDM line system

Changes from the previous versions

draft-dharinigert-ccamp-dwdm-if-lmp-08

- References updated

Note: ITU-T G.872 (01/2017) introduced:

3.2.5 optical power monitor (OPM): A function that monitors the optical power in one or more media channels.

New G.698.2 supporting 100G interfaces has been issued

G.872 Power Monitor

8.1.8 Optical power monitor (OPM)
The OPM measures the power of any optical signals that are present in a media channel. The optical spectrum over which the measurement is made is determined by the frequency slot of the media channel. For example, the frequency slot of the OPM may encompass the frequency slots of an OMS link or OTS link and therefore will measure the total power of the OTSi present on the OMS link or OTS link. If the frequency slot is set to that of a network media channel, then the OPM will measure the power of the OTSi that has been assigned to that network media channel.

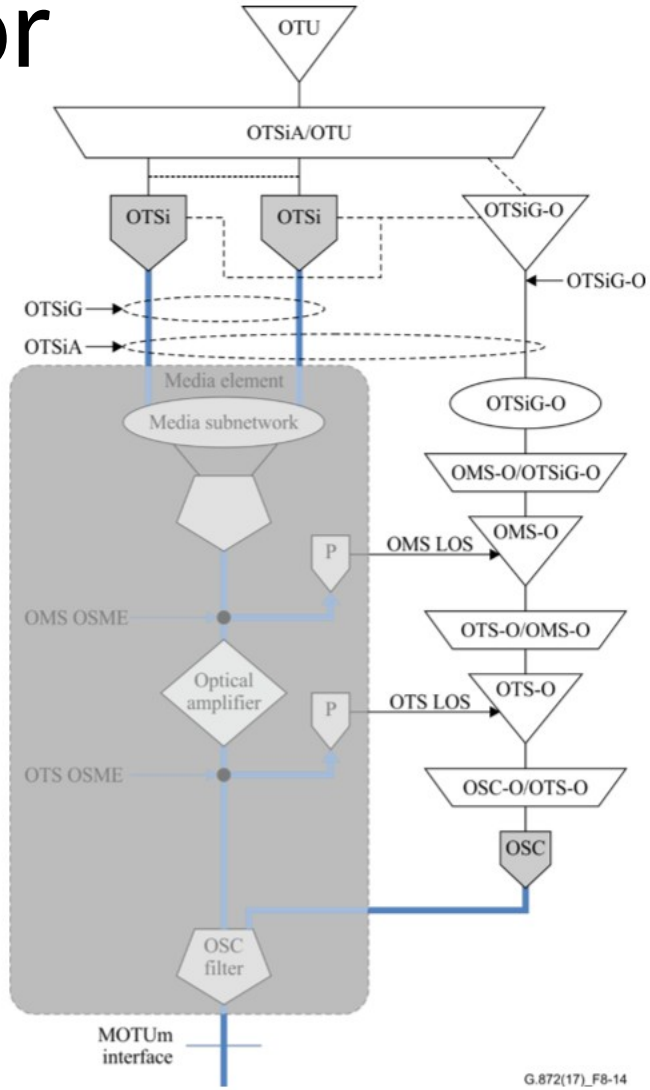

Figure 8-14 – Example of a terminal implementation using a single media element

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What is defined here:

- Extension to the Link Management Protocol (LMP/DWDM -rfc4209) for Dense Wavelength Division Multiplexing (DWDM) Optical Line Systems to manage the application code of optical interface parameters in DWDM application
- Output Power
- Current Input Power
- Input power range

Next Steps

draft-dharinigert-ccamp-dwdm-if-lmp-08

- Update references to ITU-T recommendations
- Go to WG document request

Keep in mind: LMP is not for configuration!

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Motivation & Problem statement

Problem:

- Coherent transceivers not covered by standards today ▭ draft status is informational
- Supporting several combinations of parameters with interdependency between each other
- Current YANG models do not support the planning aspect allowing to select the best parameter combination
- Yang models definition according to existing draft like: draft-ietf-ccamp-wson-iv-info, draft-martinelli-ccamp-wson-iv-encode and RFC6566

Motivation:

- Provide a consistent way to plan and operate wavelength Interfaces with netconf/yang

Changes from the previous version

- draft-dharini-ccamp-dwdm-if-param-yang-06
  - ITU-T References updated

Next Steps

draft-dharini-ccamp-dwdm-if-param-yang-06

- Keep alignment with related effort in CCAMP
- Keep focus on operational aspects

Extension to the Link Management Protocol (LMP/DWDM -rfc4209) for Dense Wavelength Division Multiplexing (DWDM) Optical Line Systems to manage the application code of optical interface parameters in DWDM application

draft-ggalimbe-ccamp-flex-if-lmp-06

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LMP Considerations

- LMP address the discovery/parameter-negotiation use case
- LMP is neither used for configuration nor provisioning and there is no mentioning of configuration or provisioning in these drafts
- Discovery determines the limitations of the DWDM interface to a WDM line system

Parameters to exchange

The parameters added for SSON are:

1. Modulation identifier: indicates the Transceiver capabilities to support a single or multiple modulation format like: BPSK, DC-DP-BSPSK, QPSK, DP-QPSK, QAM16, DP-QAM16, DC-DP-QAM16, QAM64, etc.
2. FEC: indicates the FEC types the transceiver can support
3. baud rate: number of symbols rate, basically this identifies the channel frequency
4. Number Carriers: number of subcarriers the transceiver can support and can be "mapped" in a Media Channel
5. Bits/symbol: number of bit per symbol (aka spectral efficiency)
6. Subcarrier band (minimum distance between subcarriers) in GHz required by the transceiver
7. Guard band (required guard band at the side of media channel)
8. Sub-carrier TX Power: output optical power the transceiver can provide
9. Sub-carrier RX Power: Input optical power Range the transceiver can support, this is known also as Sensitivity
10. Sub-carrier OSNR robustness
11. Max-pol-power-difference
12. Max-pol-skew-difference

Changes from the previous version

- Draft-ggalimbe-ccamp-flex-if-lmp-06
  - fixed ITU-T references

Next Steps

- Keep alignment with related effort in CCAMP

- Keep focus on operational aspects
- Progress towards WG doc.

A YANG model to manage the optical interface parameters for an external transponder in a WDM network

draft-galimbe-ccamp-iv-yang-07

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Motivation & Problem statement

Problem:

- Coherent transceivers not covered by standards today ▭ draft status is informational
- Supporting several combinations of parameters with interdependency between each other
- Current YANG models do not support the planning aspect allowing to select the best parameter combination
- Yang models definition according to existing draft like: draft-ietf-ccamp-wson-iv-info, draft-martinelli-ccamp-wson-iv-encode and RFC6566

Motivation:

- Provide a consistent way to plan and operate wavelength Interfaces with netconf/yang

Changes from the previous version

- draft-galimbe-ccamp-iv-yang-07
  - Updated ITU-T References

Next Steps

- Keep alignment with related effort in CCAMP
- Keep alignment to **draft-ietf-ccamp-wson-iv-info** and **draft-ietf-ccamp-wson-iv-encode** and follow the fate
- Keep focus on operational aspects
- Address feedbacks to become WG doc.

Thank You!

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