

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-dharinigert-ccamp-g-698-2-imp-10](#)

IETF 93 – CCAMP WG

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Agenda

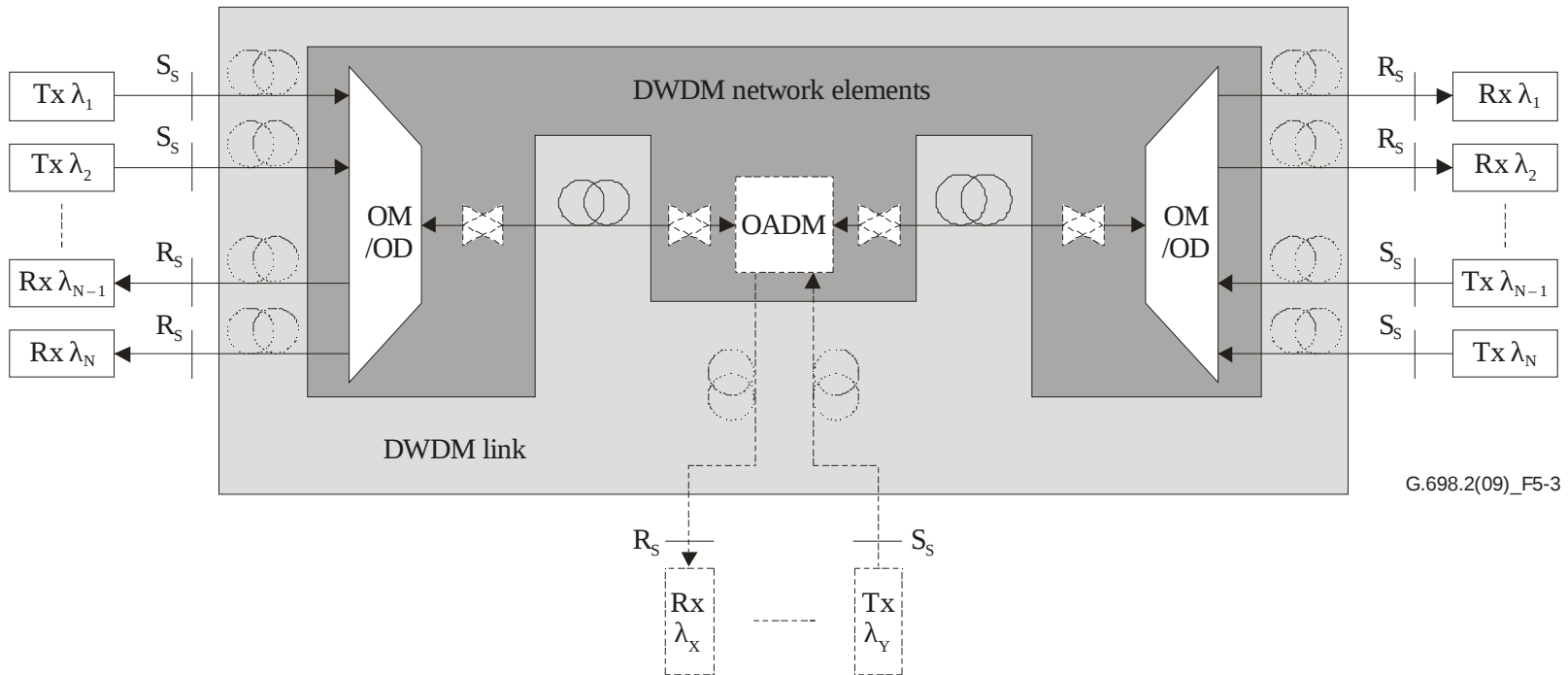
- Changes: new use cases added to the draft:
 - Access link power monitoring
 - Power Control Loop Use Case
- Related ITU-T activities
- Next steps

Changes

- 2 new use cases were added to the draft that are motivating why LMP shall convey transmitter and receiver power values:
 - Access Link power Monitoring Use Case
 - Power Control Loop Use Case

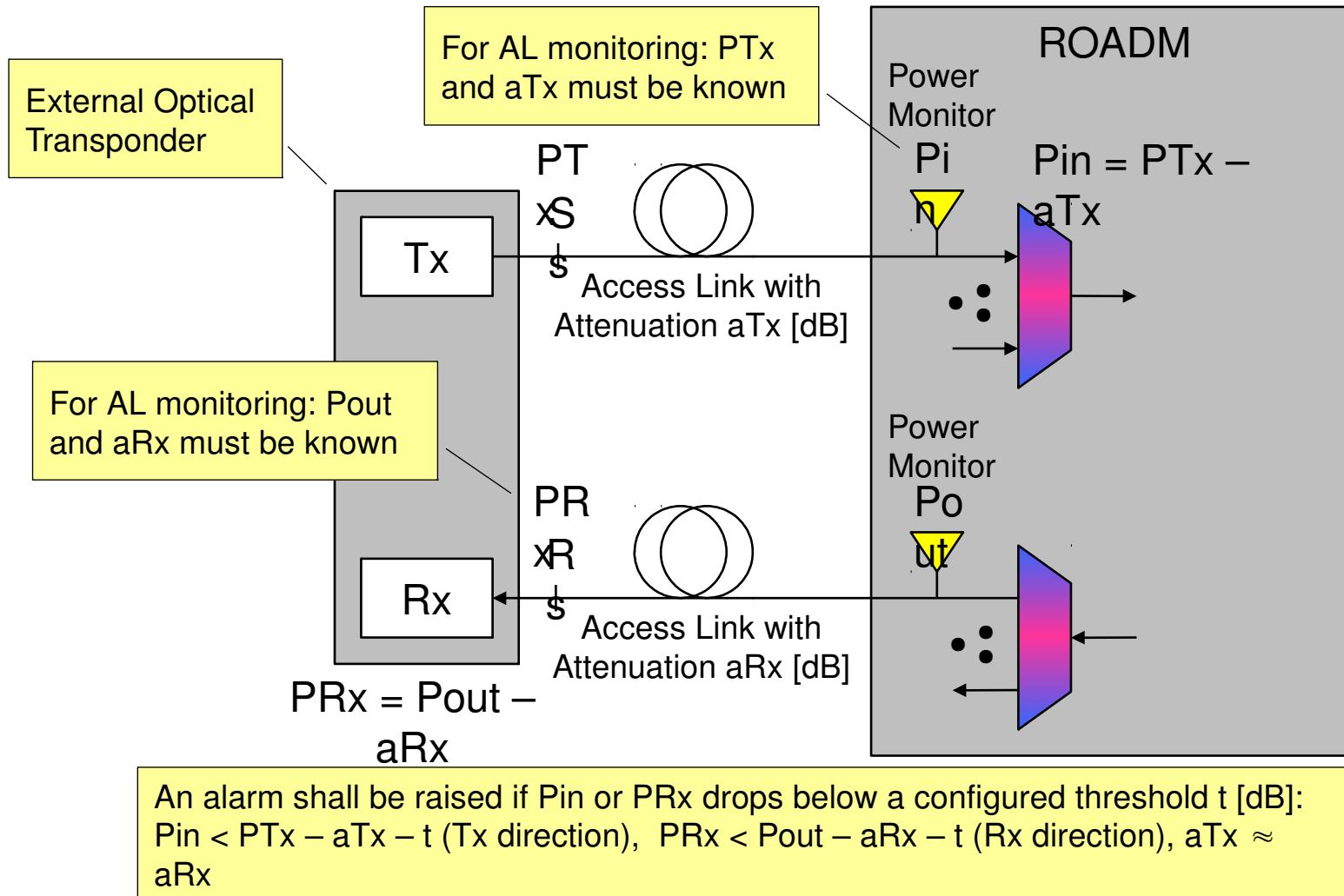
ITU-T Recommendation G.698.2

Data Plane Reference Model

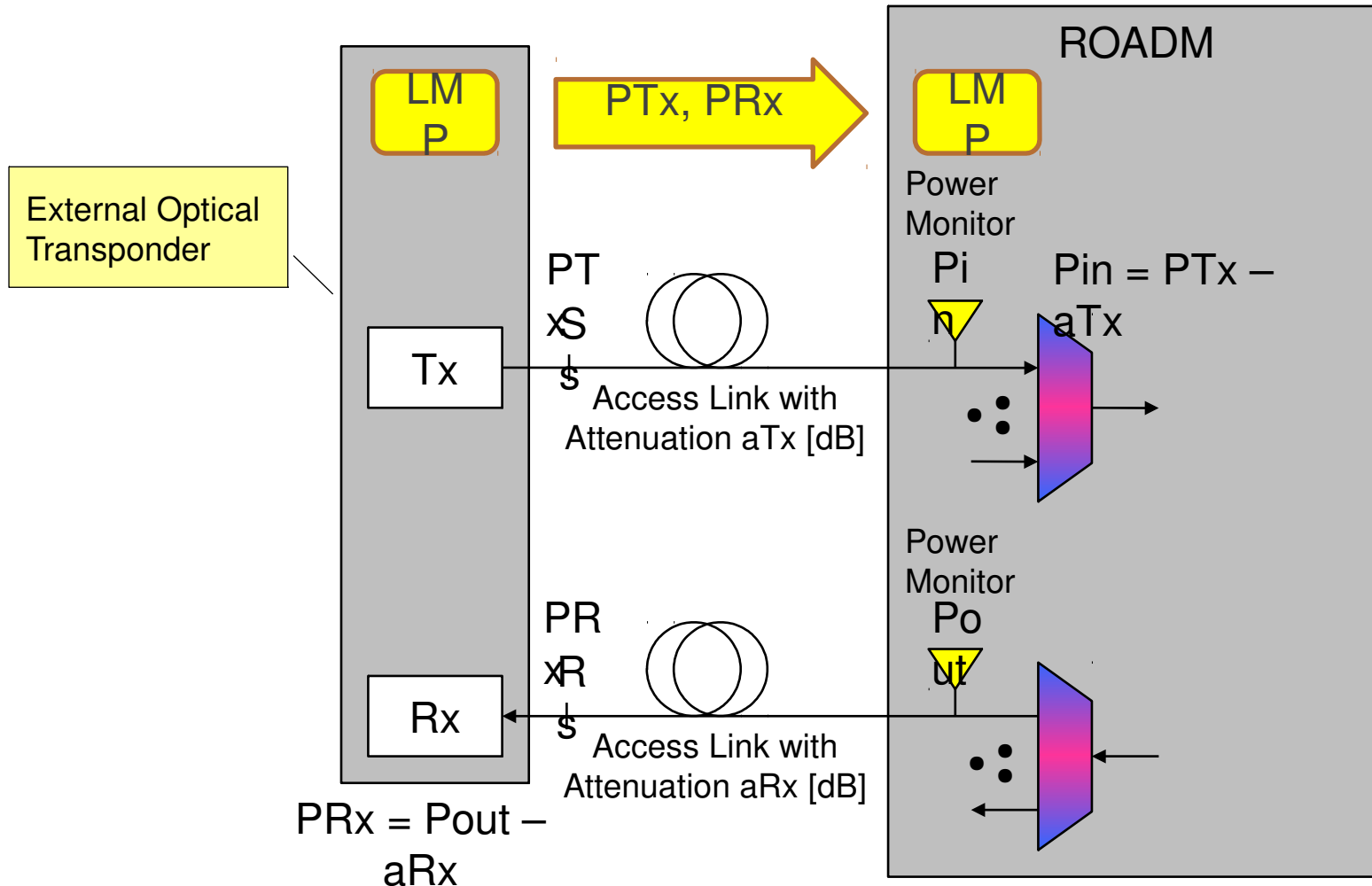


G.698.2/Figure 5-3 – Linear "black link" approach for bidirectional applications

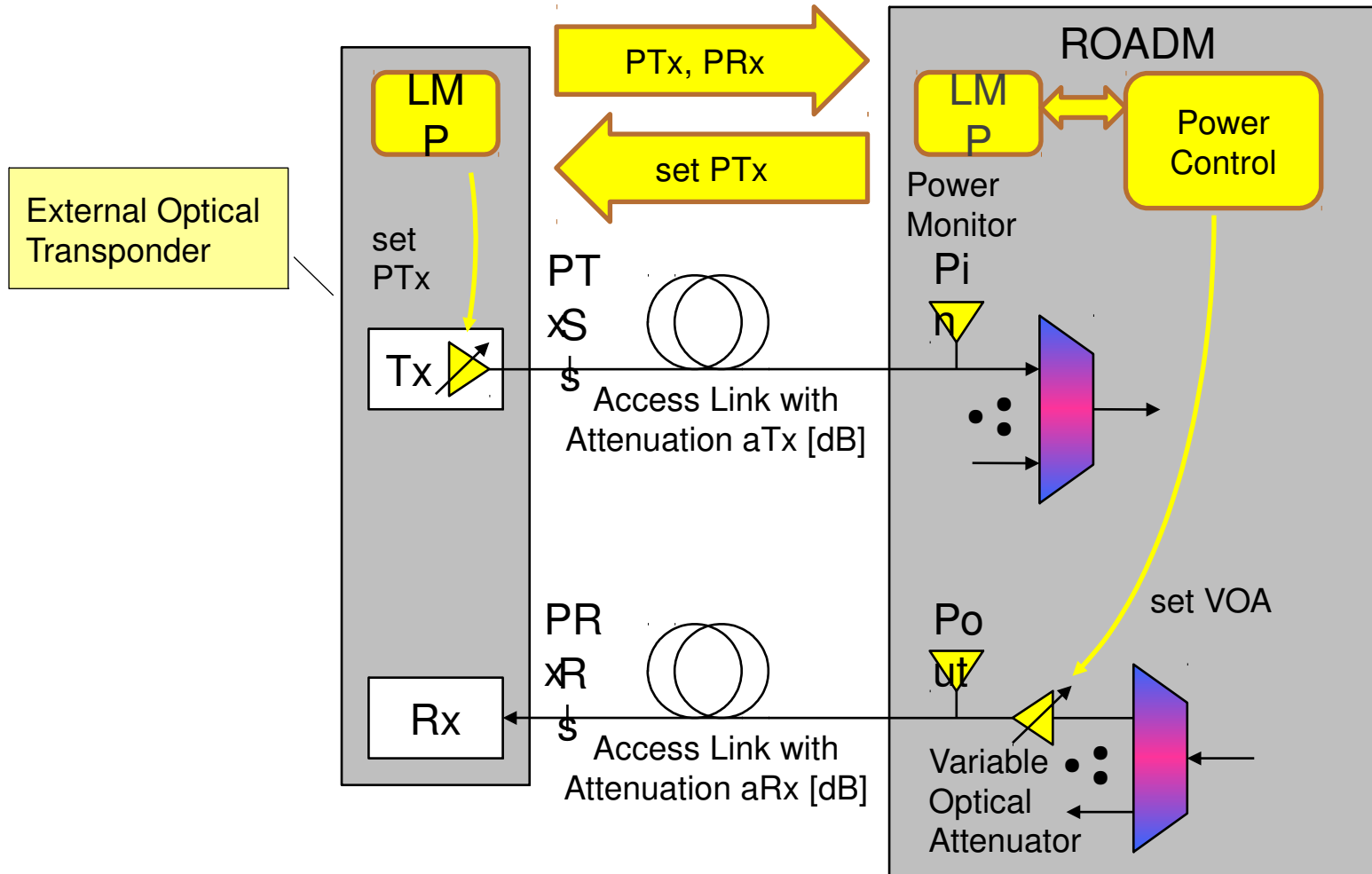
Access Link (AL) Power Monitoring Use Case based on ITU-T Recommendation G.698.2



Access Link (AL) Power Monitoring Use Case based on ITU-T Recommendation G.698.2



Power Control Loop Use Case based on ITU-T Recommendation G.698.2



LMP Requirements

- Access Link (AL) Power Monitoring Use Case:
 - LMP shall be capable to convey the current transmit power P_{Tx} and the received power P_{Rx} from the external transponder to the physically adjacent ROADM on the DWDM network boundary
- Power Control Loop Use Case:
 - In addition to the above requirement, LMP shall be capable to convey a “set P_{Tx} ” command from the ROADM on the DWDM network boundary to the external transponder to modify the transponder’s transmit power. The P_{Tx} value must be within the P_{Tx} power range defined by Application Code currently in use.

Related ITU-T SG15 Activities

- A multi-company ITU-T contribution C1454 (ALU, Cisco, DT) was submitted to the SG15 meeting (22 June - 3 July 2015):
 - Proposal: extend G.874 (management requirements) and the OTN information model as defined in G.874.1.

“It is proposed to define single channel optical power monitors (see G.697, section 6.1.2) for the optical tributary signal as information model extension for the network element supporting the G.698.2 application.”
 - SG15 meeting outcome:
 - It was agreed that G.874 and G.874.1 will be enhanced as proposed.
 - The **power monitoring** capability will be specified as an **optional** feature and is **not** supposed to be **mandatory for G.698.2 implementations**.

Next Steps

- Solicit feedback/comments from the group.
- Define a new LMP TLV for the “set PTx” command.
- Authors will help ITU-T Q14/15 to define the G.874 and G.874.1 extensions to support the optional optical power monitoring points (contribution to the upcoming Q14/15 interim meeting).
- No open issues.

Thank You!