Report on ad hoc calls on terminology around DWDM

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Introduction

During the interim teleconference meetings on 28 January and 4 February 2021 4 presentations were given on terminology around DWDM systems, stassar_3ct_01_210128, dambrosia_3ct_01b_210128, stassar_3ct_01_210204, and dambrosia_3ct_01_210204.

During 2 ad hoc calls on 12 and 16 February the authors developed this presentation with recommendations to the Task Force to use it as a basis for creating responses to comments and proposed remedies to P802.3ct D3.1.

What do we have so far in D3.1

1.4.160a black link: A multi-channel link specified using a methodology where the input, output, and transfer characteristics of the uni-directional transmission path between TP2 to TP3 for a given DWDM channel are specified, without specifying how the transmission path is implemented. (See, for example, IEEE Std 802.3, Clause 154, Figure 154–3)

1.4.237a DWDM channel: The transmission path between a DWDM PHY transmitting to another DWDM PHY.

1.4.237b DWDM link: One DWDM PHY transmitting to one other DWDM PHY through the transmission path between them.

1.4.237c DWDM PHY: An Ethernet PHY that is capable of running over one DWDM channel in each direction of transmission.

1.4.237d DWDM system: An aggregate of DWDM links optically multiplexed and demultiplexed onto and off either a single optical fiber or a single optical fiber per direction.

Ad hoc proposal on terminology to ct Task Force

- Removal of definitions for “DWDM system” and “DWDM link”
- Merging terms “DWDM link” and “black link” into “DWDM black link”.
- Maintain definition for “DWDM PHY”.

- Definition for “DWDM black link”: *DWDM black link: An aggregate of pairs of DWDM channels, with each pair supporting one full-duplex connection*

- Modify definition for “DWDM channel” to: *DWDM channel: The transmission path from a transmitting DWDM PHY (TP2) to a receiving DWDM PHY (TP3)*

- Modify definition for black link to**:** “*black link approach: The specification of the input, output, and transfer characteristics of the uni-directional transmission path from TP2 to TP3 for a given DWDM channel within a DWDM black link, without specifying how the transmission path is implemented. (See, for example, IEEE Std 802.3, Clause 154, Figure 154–3)”*

Further recommendation to ct Task Force

The final sentence of the first paragraph of 154.6 currently contains an embedded definition of DWDM channel:

The medium associated with the 100GBASE-ZR PMD is also referred to as a DWDM channel which is defined as the transmission path on a single wavelength/frequency (referred to either by channel index number or channel center frequency) on a defined frequency grid between a DWDM PHY transmitting to another DWDM PHY over a black link.

The ad hoc recommends to modify this to:

The medium associated with the 100GBASE-ZR PMD is referred to as a DWDM channel.

TF participants are encouraged to identify & report potentially similar sentences with embedded definitions.

Result of ad hoc discussions on Figure 154-3

It was the consensus of the ad hoc to modify Figure 154-3 to:

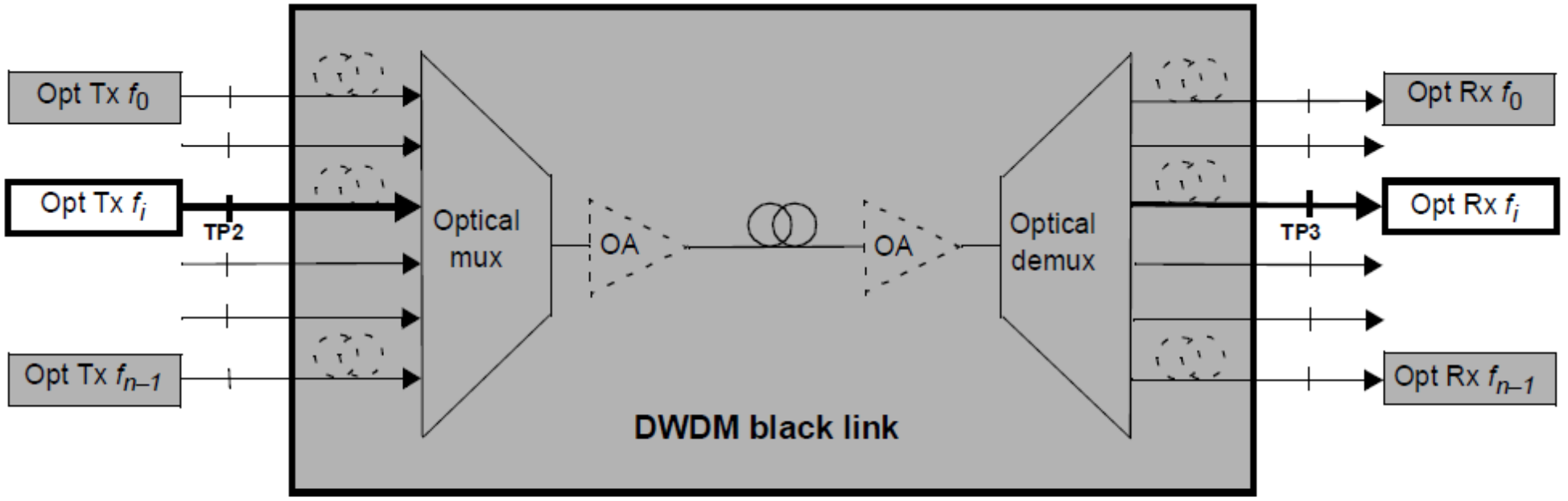

Figure 154–3—DWDM black link example configuration for specifying *n* DWDM channels

Result of ad hoc discussions on Figure 154-3, continued

- The consensus of the ad hoc to modify Figure 154-3 as shown on slide 6 of this presentation was not unanimous.

- One participant strongly preferred variant 2 shown on slide 4 of stassar_3ct_02_210216, where the variant of Figure 154-3 does not show any details inside the “grey box” called DWDM black link.

- In addition to the consensus view on Figure 154-3, the group felt that further discussion would be needed to develop new material for inclusion in Annex 154A, for instance by adding further variants of Figure 154-3, e.g. one showing bi-directional transmission.

Further ad hocs

- The next terminology ad hoc will be on 2 March 2021.

- Objective: develop additional material, related to terminology and Figure 154-3, for inclusion in Annex 154A.

Thanks!