# Proposed Changes to Annex 180A and MDIs for DR Optics

Adee Ran, Cisco
Angela Lambert, Corning
Michael Ransford, Corning
Tiger Ninomiya, Accelink
Jose Castro, Panduit
John D’Ambrosia, Futurewei, U.S. Subsidiary of Huawei

# Introduction

- Annex 180A addresses the possibility of using a single MDI (optical connector) for multiple PMDs, and for “partially-implemented” PMDs.
  - Previously in 802.3 there was always (formally) 1:1 relationship between PMD types and optical connectors.
- Comment #87 against D2.3 and related contribution ran_3dj_03a_2601 suggested informing the reader that **this may require appropriate configuration of the PHY(s) for interoperability**.
  - There is a similar concern with electrical MDIs, addressed in a separate presentation.
- Also, the text describing the lane assignment requirements can be improved.

# Proposed informative NOTEs

Add the following note after the last paragraphs of 180A.4.1 and 180A.4.2:

NOTE—Implementations that support multiple combinations of PHY types on the same MDI must be configured appropriately for interoperability with the connected link partners. Selecting the appropriate configuration requires knowledge of the fiber plant and the link partners.

The language is intended to be common with a similar NOTE in Clause 179.
The word “implementation” is used for lack of a formally-defined term for a “thing” with an optical (or electrical) connector that serves multiple PHYs.

# Proposed text changes

## 180A.4.1 Assignments for a single-row 12-fiber interface

Change the text as follows:

When ~~the optical MDI is~~ only ~~supporting~~ a single 1-lane PMD (200GBASE-DR1 or 200GBASE-DR1-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1 and Rx1, as shown in Table 180A–2, regardless of whether fibers are populated in the remaining optical connector positions.

When ~~the optical MDI is~~ only ~~supporting~~ a single 2-lane PMD (400GBASE-DR2 or 400GBASE-DR2-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1, Tx2, Rx1, and Rx2, as shown in Table 180A–2, regardless of whether fibers are populated in the remaining optical connector positions.

When ~~the optical MDI is supporting~~ a ~~single~~ 4-lane PMD (800GBASE-DR4 or 800GBASE-DR4-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1 through Tx4 and Rx1 through Rx4, as shown in Table 180A–2.

# Proposed text changes

## 180A.4.2 Assignments for a single-row 16-fiber interface

Change the text as follows:

When ~~the optical MDI is~~ only ~~supporting~~ a single 1-lane PMD (200GBASE-DR1 or 200GBASE-DR1-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1 and Rx1, as shown in Table 180A–4, regardless of whether fibers are populated in the remaining optical connector positions.

When ~~the optical MDI is~~ only ~~supporting~~ a single 2-lane PMD (400GBASE-DR2 or 400GBASE-DR2-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1, Tx2, Rx1, and Rx2, as shown in Table 180A–4, regardless of whether fibers are populated in the remaining optical connector positions.

When ~~the optical MDI is~~ only ~~supporting~~ a single 4-lane PMD (800GBASE-DR4 or 800GBASE-DR4-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1 through Tx4 and Rx1 through Rx4, as shown in Table 180A–4, regardless of whether fibers are populated in the remaining optical connector positions.

When ~~the optical MDI is supporting a single~~ an 8-lane PMD (1.6TBASE-DR8 or 1.6TBASE-DR8-2) is implemented with the optical connector, the optical PMD lanes shall be assigned to the optical connector positions Tx1 through Tx8 and Rx1 through Rx8, as shown in Table 180A–4.