# 10BASE-T1M
# Mixing Segment
# Specification References

# June 2022

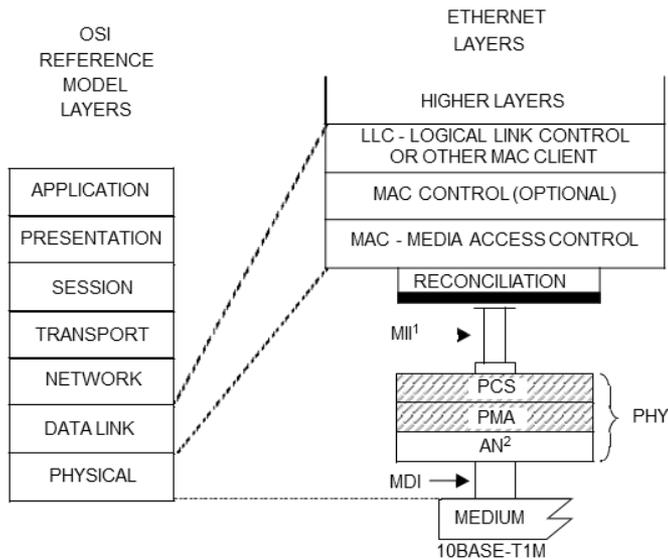**Chris DiMinico/MC Communications/PHY-SI LLC/SenTekse**
**cdiminico@ieee.org**

# Purpose

- 10BASE-T1M Mixing Segment Specification References

# 10BASE-T1M Reference Model and Definitions



**Figure 168–1—Relationship of 10BASE-T1M PHY to the ISO/IEC OSI reference model and the IEEE 802.3 Ethernet model**

*Source: IEEE P802.3da™/D0.6, 24th September 2021*

**1.4.395** Medium Dependent Interface (MDI): The mechanical and electrical or optical interface between the transmission medium and the MAU (e.g., 10BASE-T) or the PHY (e.g., 1000BASE-T) and also between the transmission medium and any associated (optional per IEEE Std 802.3, Clause 33, Clause 104, and Clause 145) Powered Device (PD) or Endpoint Power Sourcing Equipment (PSE).
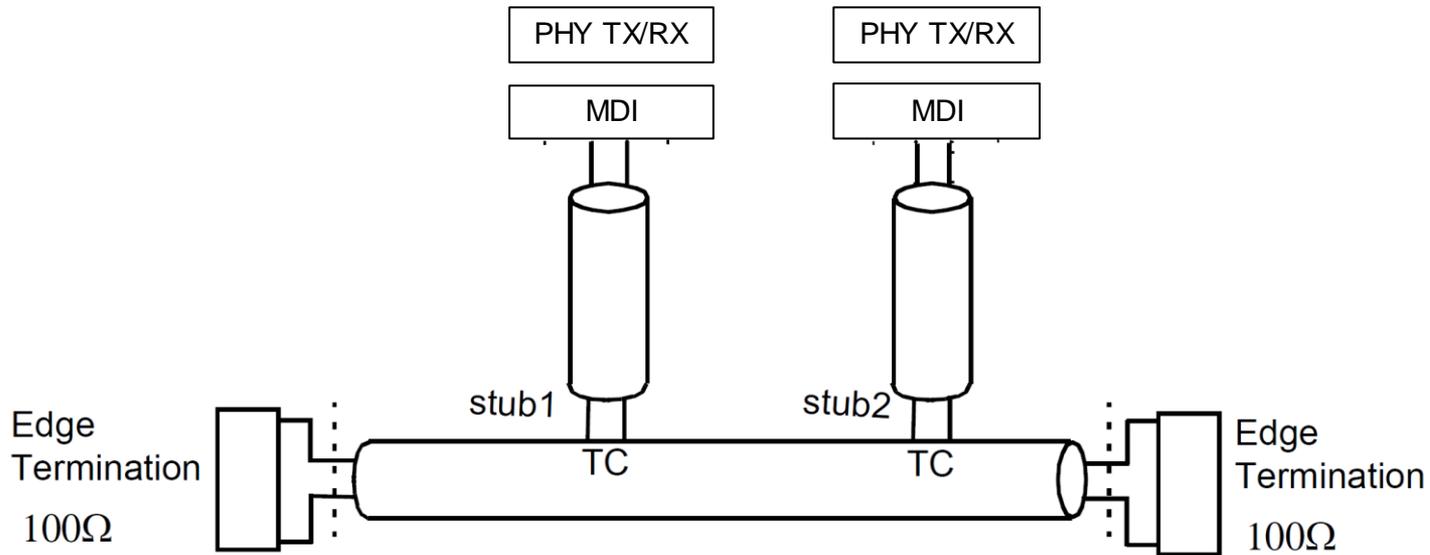
**1.4.403 mixing segment:** A medium that may be connected to more than two Medium Dependent Interfaces (MDIs).

**1.4.467 Physical Layer device (PHY):** Within IEEE 802.3, the portion of the Physical Layer between the Medium Dependent Interface (MDI) and the media independent interface specific to the data rate (e.g., MII, GMII, XGMII). The PHY contains the functions that transmit, receive, and manage the encoded signals that are impressed on and recovered from the physical medium.

*Source: IEEE Draft P802.3/D3.2 15th March 2022*

**10 Mb/s SPMD Enhancement TG**
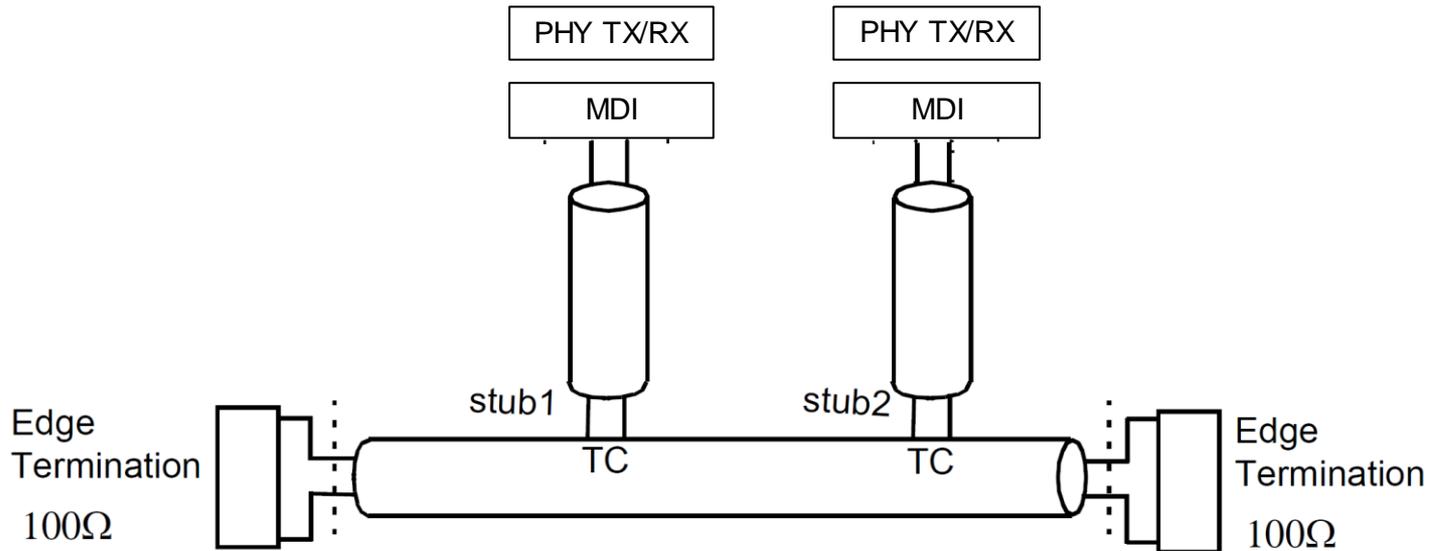
# 10BASE-T1M Mixing Segment

- Mixing segment specified in conjunction with but characterized independent of PHYs/MDIs attached.



**1.4.403 mixing segment:** A medium that may be connected to more than two Medium Dependent Interfaces (MDIs).
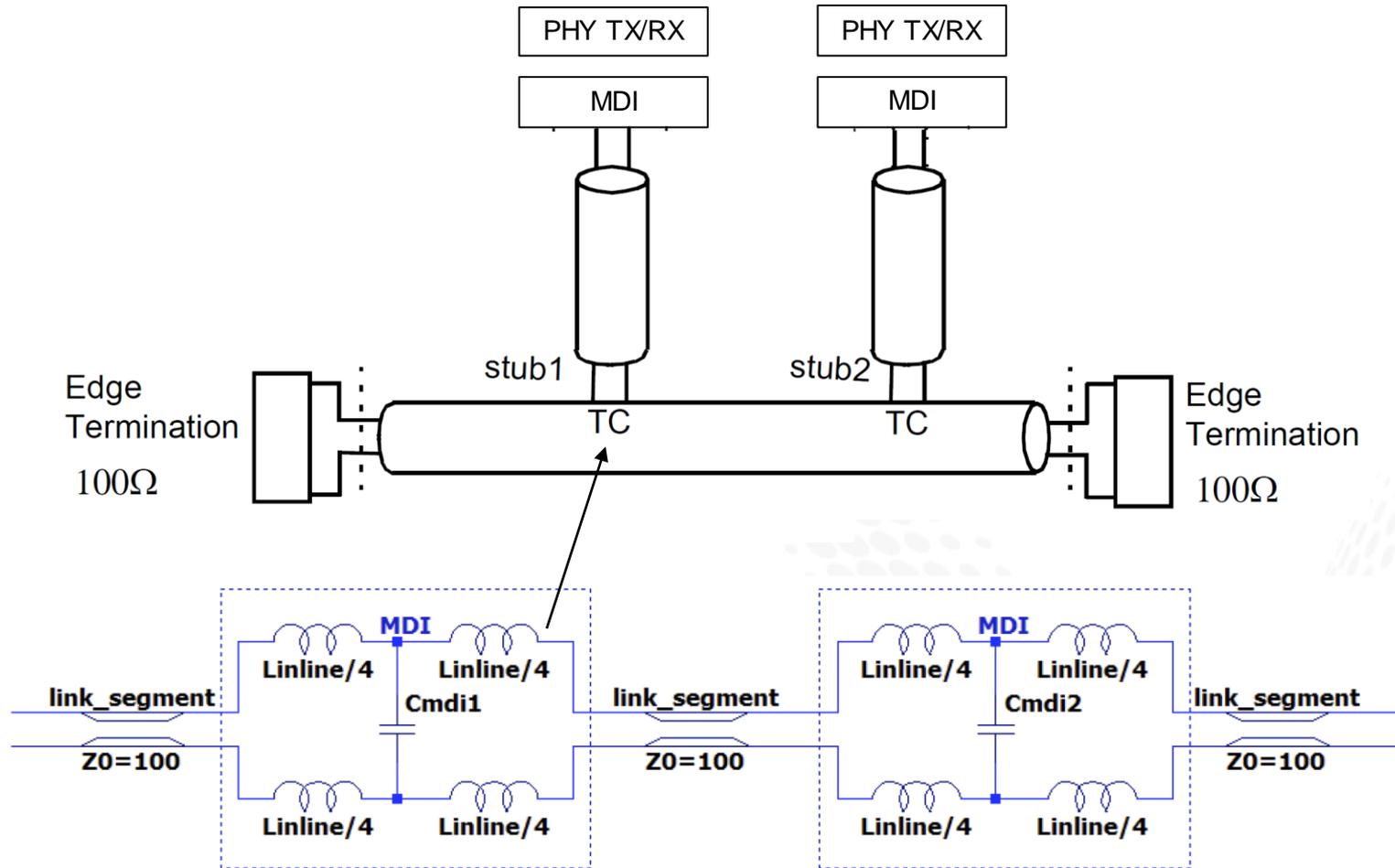
# PHYs/MDI loading

- Consideration for TX/RX and MDI loading to use mixing segment specifications specified independently.



**1.4.403 mixing segment:** A medium that may be connected to more than two Medium Dependent Interfaces (MDIs).

# Mixing Segment - Trunk Connection

- Considerations for trunk connections - inline inductors (TBD)



*Source:*
*https://www.ieee802.org/3/da/public/102021/Koczwara_3da_01_102021.pdf*

# Summary

- 10BASE-T1M Mixing Segment Specification References