NORTEL NETWORKS

WAN Connections & WAN PHY Requirements

David W. Martin

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WAN Connections

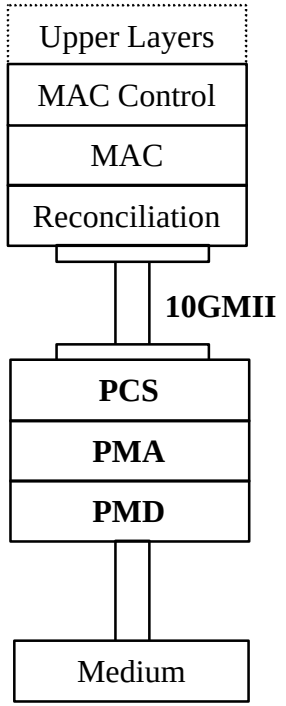
- **Dark fiber**
- **SONET**
- **Existing DWDM**
- **Future DWDM/OTN**

* for definitions refer to http://grouper.ieee.org/groups/802/3/10G_study/public/jan00/law_1_0100.pdf

Dark Fiber

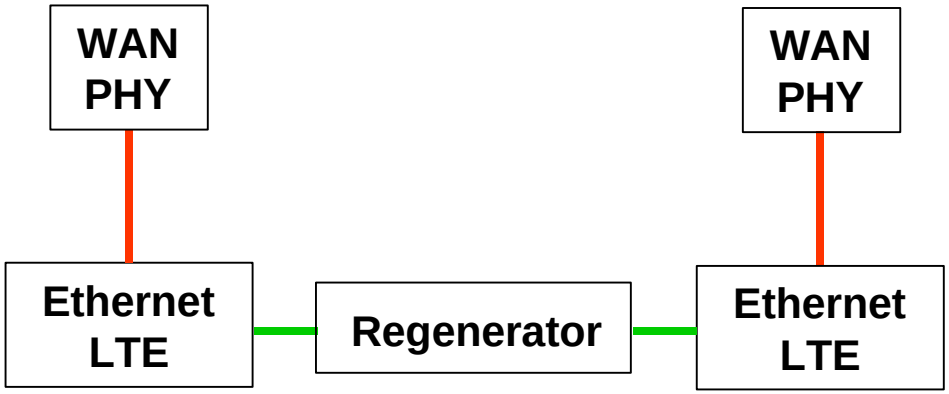
802.3 WAN Segment

10 Gigabit Ethernet Reference Model



Required WAN PHY Functionality: none

SONET

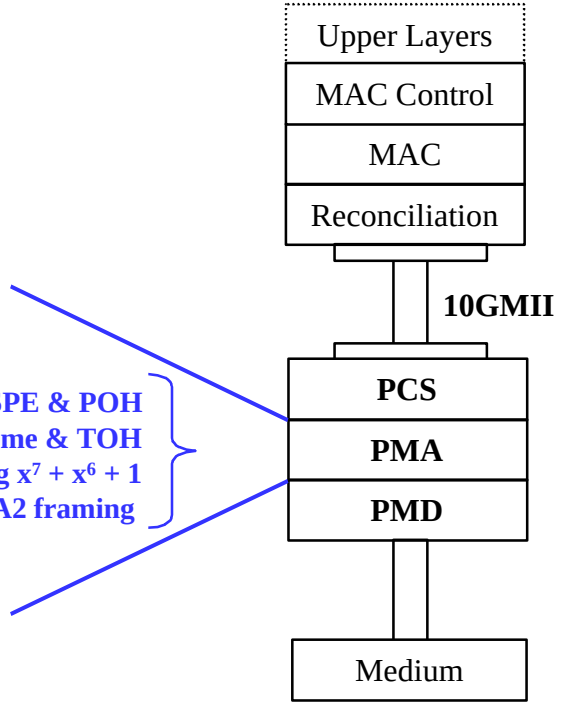


SONET

802.3 WAN Segment

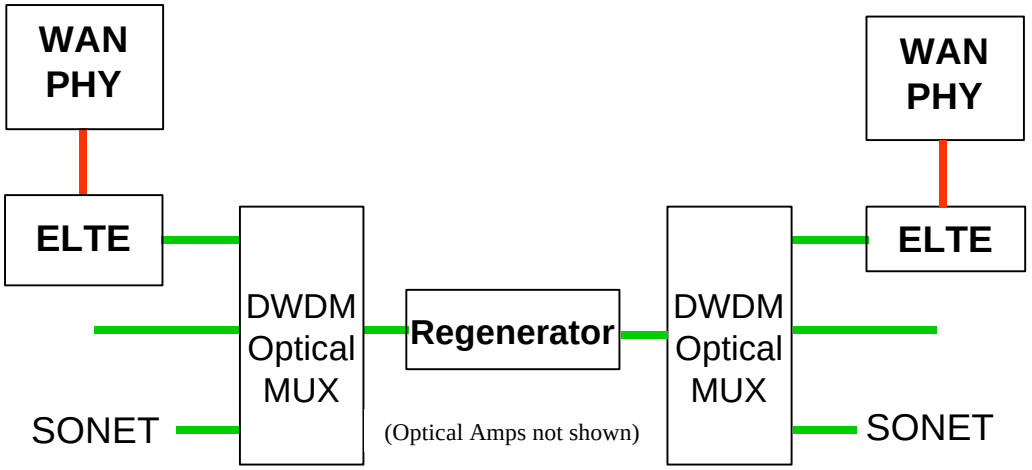
LTE - Line Termination Equipment

10 Gigabit Ethernet Reference Model



Required WAN PHY Functionality

Existing DWDM

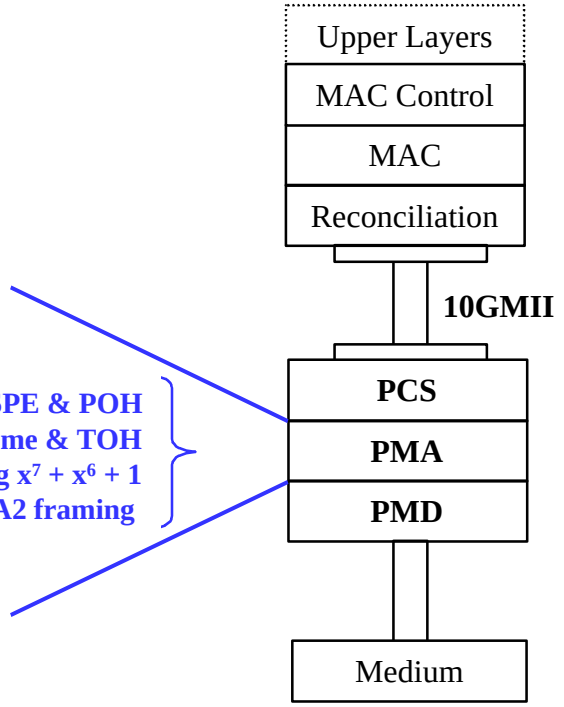


SONET

802.3 WAN Segment

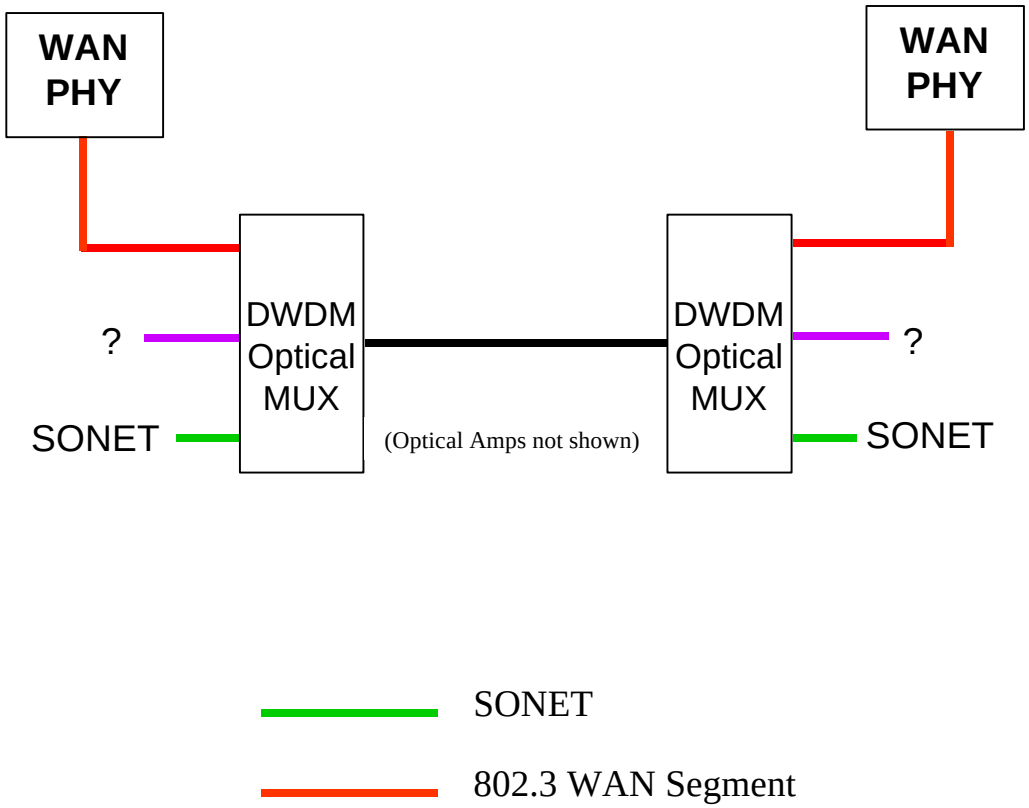
ELTE - Ethernet Line Termination Equipment

10 Gigabit Ethernet Reference Model

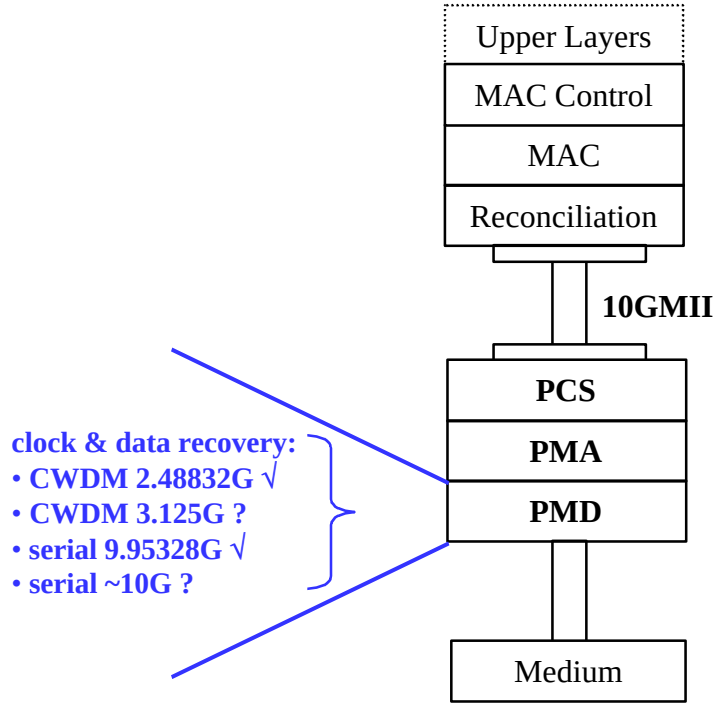


Required WAN PHY Functionality

Future DWDM/OTN



10 Gigabit Ethernet Reference Model



Required WAN PHY Functionality

Future DWDM/OTN

a) The layer 0, Optical Transport Network, being defined by ITU-T SG13 & SG15.

b) Wavelengths on standard grid in 1550nm band.

c) Current client signals supported: OC-48, OC-192.

d) Goal is to eventually provide support for other rates, ranges of rates, and be layer 1 format independent.

WAN PHY Requirements Summary

PCS:

- none

PMA:

- STS-192c SPE & POH*
- SONET frame & TOH*
- scrambling $x^7 + x^6 + 1$
- A1/A2 framing

PMD:

- CWDM 2.48832G or serial 9.95328G (currently)

* OH subset as described in http://grouper.ieee.org/groups/802/3/10G_study/public/nov99/figueira_2_1199.pdf