Why not 100G MAC

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Situation

- 802.3ca passed a motion to remove 100G (4x25G) from our objectives
- Therefore we only need a MAC to support 25G and 2x25G
- It has been proposed we keep 4x25G MAC kramer_3ca_3b_0118
  - To support 2-fiber PONs. >>>the topic of this contribution
  - To save editing work. >>>not a valid reason

No market for two-fiber PONs

- Two-fiber PONs were originally standardized in G.983.1 (1998) but never built, equipment never deployed.
- Because they are not economical.

Type C protection

- Type C protection described in G.983.1 (1998) is for high availability (HA). Carried forward for future PON systems.

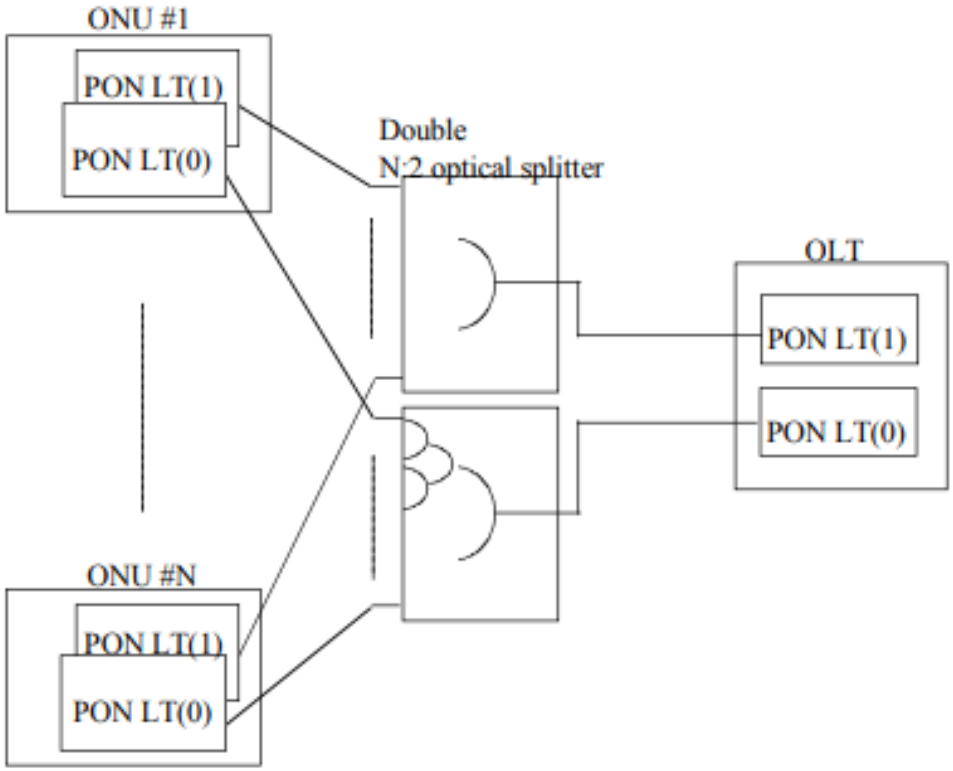

Figure IV.2/G.983.1 – Duplex ATM-PON system

- Type C protection has appeared in many RFPs over the years, but it has never been deployed (AFAIK). Because it is not economical.

A 100G 2-fiber PON is inconsistent with HA

- HA requires redundant OLT hardware. 100G 2-fiber PON cannot work with separate shelves, not even separate line cards.
- HA needs the option of route diversity. 100G 2-fiber PON cannot support unequal path lengths/ delays.
- Even if in same cable sheath (no route diversity), optical splicing operations can change lengths and prevent 2-fiber operation.

Conclusions

- It's 20 years since 2-fiber PON architectures have been considered and no commercial deployments. Can't have stronger market feedback than that.
- Why 4x25G MAC should not be in the 802.3ca standard:
  - We would never have developed a 4x25G MAC if we started as a 25G and 2x25G project.
  - Some operators will add this to PON RFPs—it doesn't cost them anything to do this. This starts a costly cycle in vendors to respond.
  - Occam's razor. KISS (keep it simple stupid).