The Architecture is a Deliverable

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Implicit Objective

- An architecture is implicit and not stated in the objectives

- But- it is a first-class output of the standard.
  - It frequently has a life beyond the original project
  - It can enable electrical interface evolution
  - It can enable future IEEE and non-IEEE PMDs
  - It can enable necessary system partitioning

- This helps the broad market potential

Life beyond original standard

- A successful architecture can support future PMDs and modules
  - IEEE, proprietary, and/or MSA-based

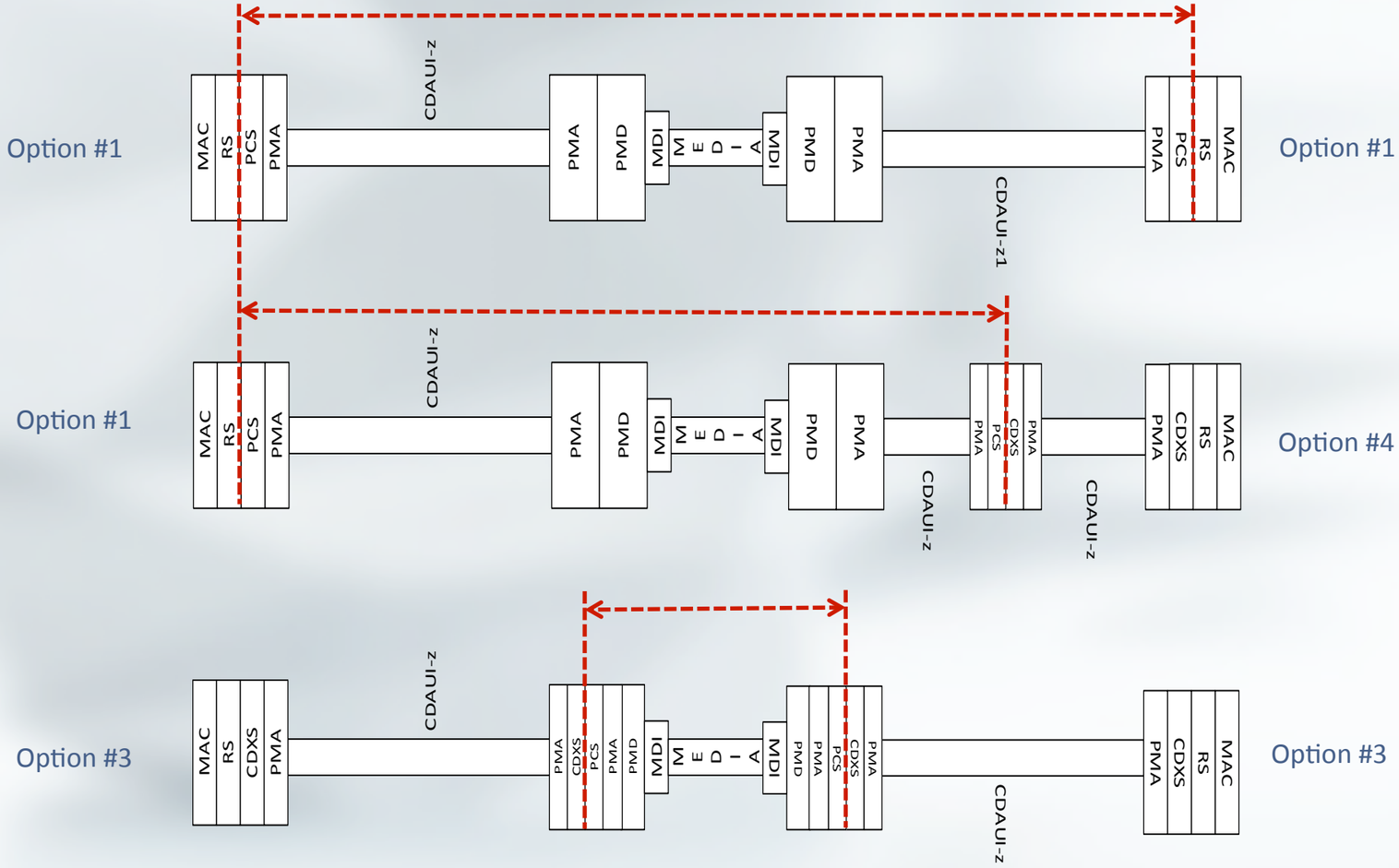
- 802.3ae
  - 10G-ZR, 10G-DWDM, 25GbE (likely)
- 802.3ba
  - 10x10GbE, 40GBASE-FR, 40GBASE-ER4, 40G BiDi
- 802.3bj
  - SR4, 100G PSM4, CDWM4, CLR4

Electrical Interface Evolution

- An architecture should support evolution of the electrical interface
- The electrical interface evolution supports module form-factor evolution
- 10GbE
  - Extender sublayer provided place to evolve interface
    - Allowed for line encoding change
  - 16 lane -> 4 lane -> 1 lane
- 100GbE (.3ba)
  - Bit-muxing scheme allowed easy evolution
  - CAUI10 -> CAUI4 (-> CAUI2 -> CAUI1)
- 100GbE (.3bj)
  - Symbol muxing still allows evolution, but more awkward for PMD

Summary

- 400GE
  - Plan for evolution
  - Plan for legacy
  - Plan for likely futures
    - IEEE-based or not
    - Some module will need a special FEC
- Provide as many tools as practical



- But don’t go nuts!
  - The future is hard to predict … remember the .3ba -> .3bj transition
- The architecture is fundamental to making this successful

Thanks!