Discussion: Areas of Common Interest to IEEE P802.3bj TF and Next Gen 100GbE Optics SG

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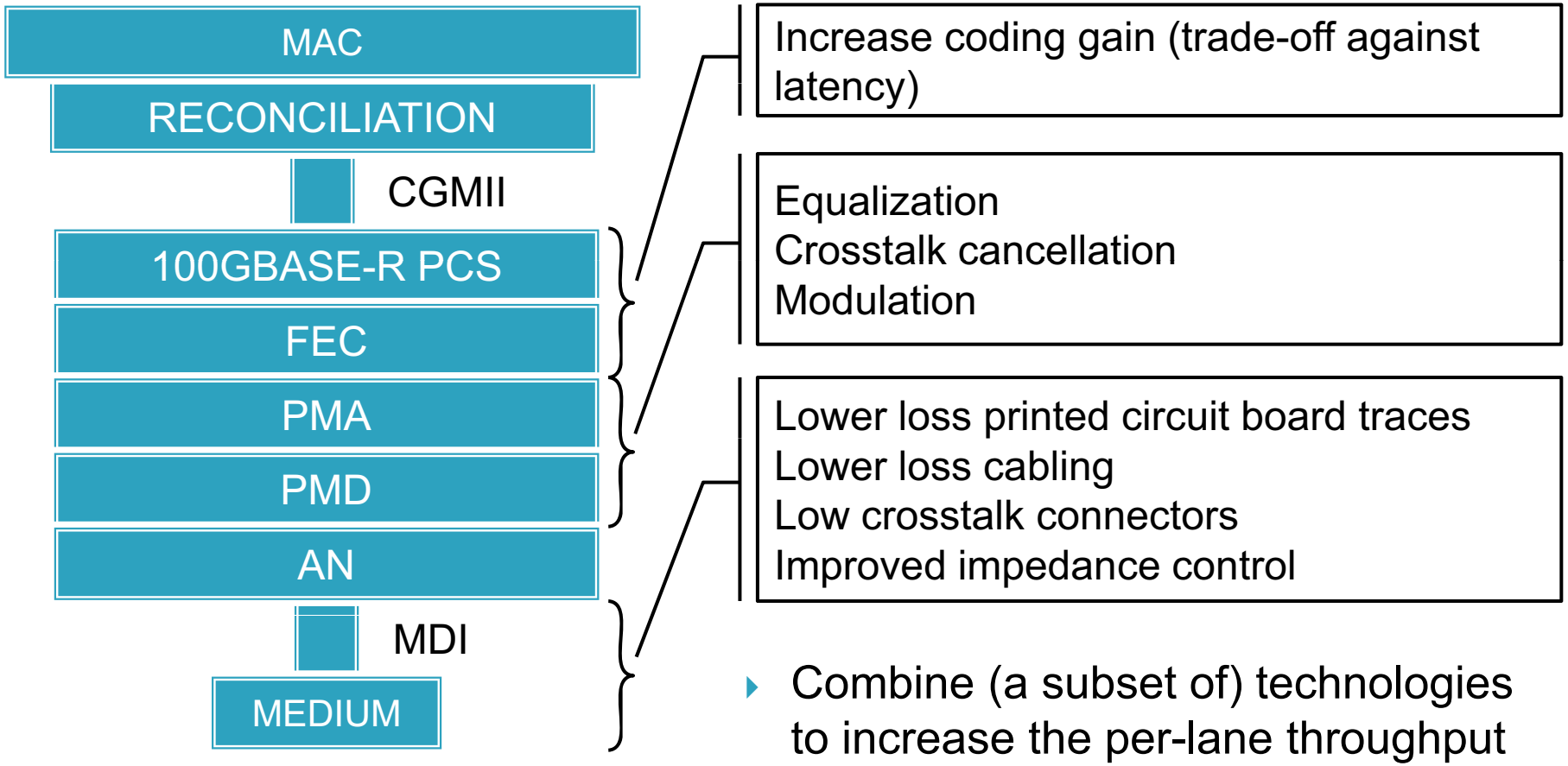
Disclaimer

- This presentation is for discussion only – things that have been brought up that might be potential common material between the new TF and SG, and is not any sort of endorsement.

Potential Enablers For a PHY

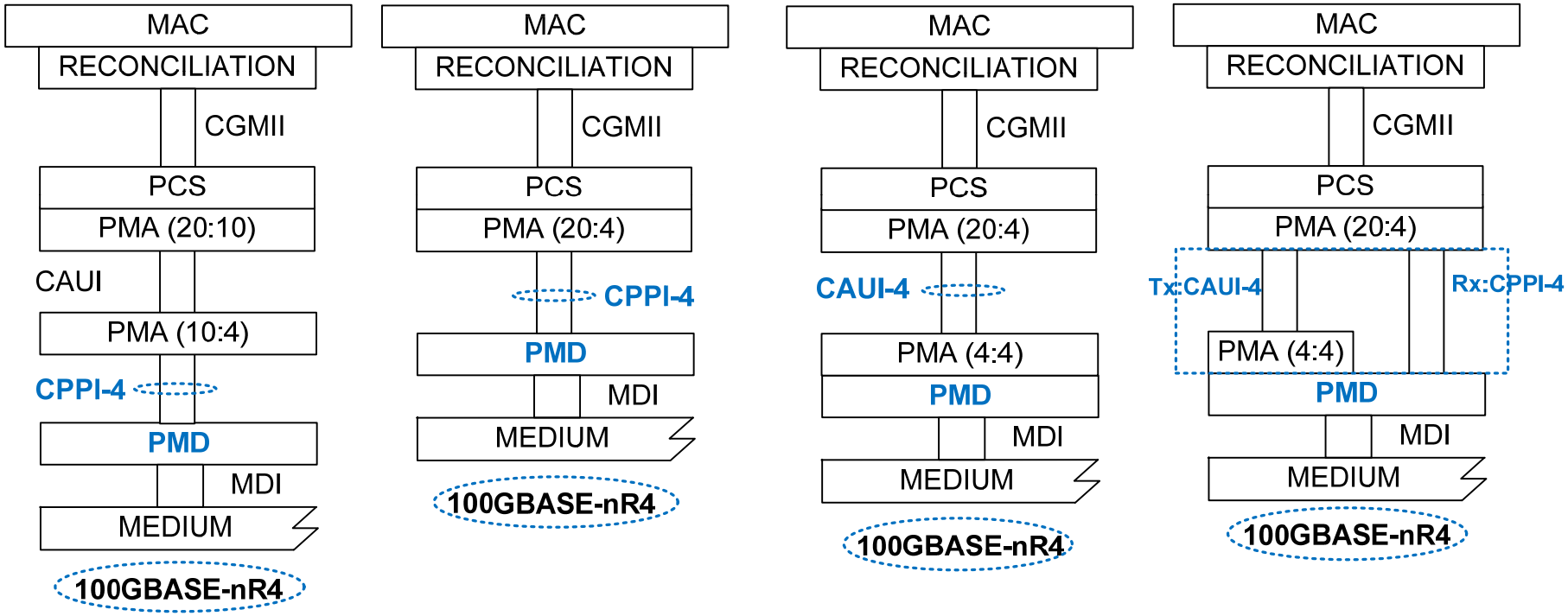


- Combine (a subset of) technologies to increase the per-lane throughput

Discussion Items

- Port commonality?
  - Common-form factor for copper / optical interfaces
    - Electrical interfaces
  - Host Channel Considerations
  - Compliance Boards
  - 100GBASE-CR4 MDI / Module electrical connector
- Architecture
  - FEC?
- Others?

Example Approaches (4x25G based)

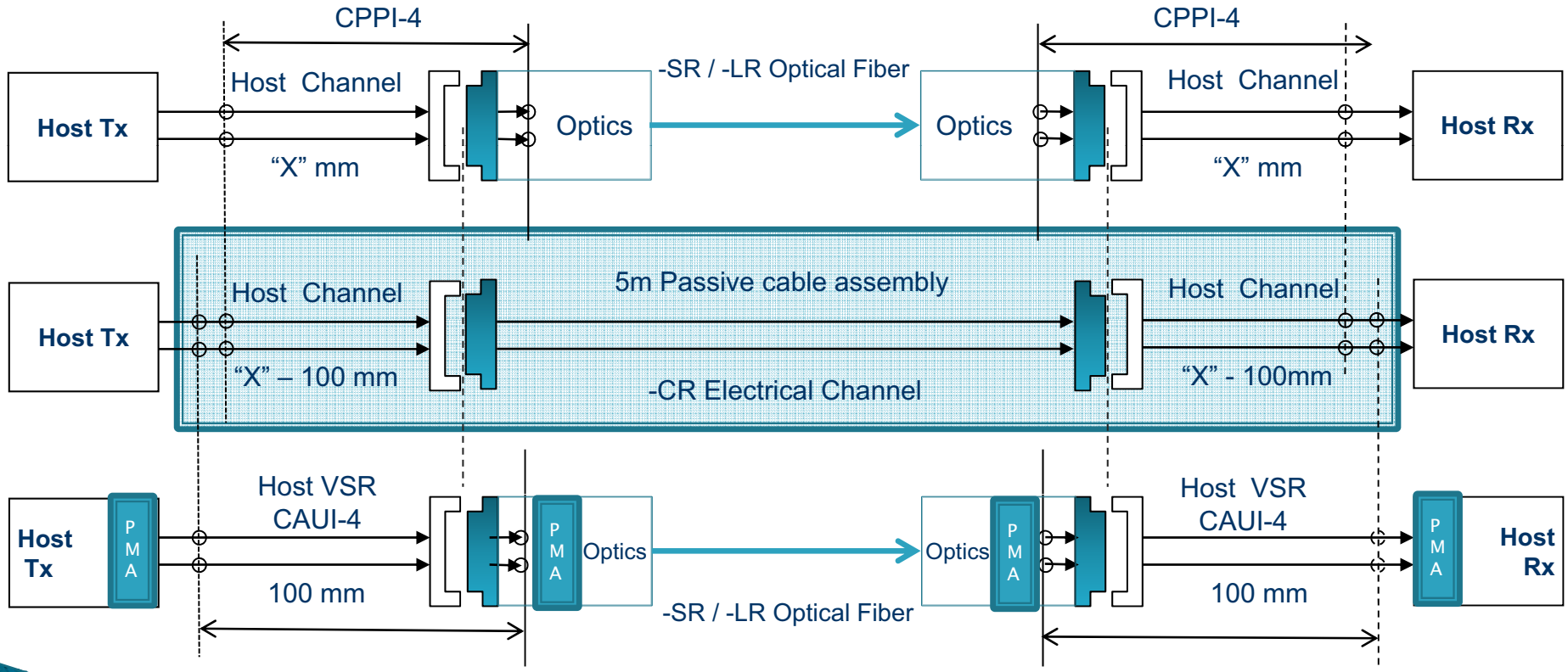


Thoughts – Channel Considerations

- Do we agree that a channel for a non-retimed interface is a subset of what a retimed channel would support?
- Questions & Observations
  - OIF has the VSR channel (retimed, 100mm (but longer with better materials))
  - What is the reference FR-4? "Improved FR-4" from backplane definition?
  - Non-retimed interface for an optics solution?
  - 100mm was the approximate length used for PPI / CR budgeting in IEEE P802.3ba

Interfaces & Shared Ports

- What might be common port(s) between 100GBASE-nR4 (optics or copper)?
- What is the channel?



Thoughts – MDI

- IEEE Std 802.3ba™-2010
  - Clause 85 specified two types of MDI
- Port Commonality
- Possible Options
  - QSFP?
  - CFP?
    - New CFP4 connector?
    - Timeline for standardization?
- Three Choices
  - No connector – black box?
  - Choose one connector?
  - Both connectors?

Thoughts on FEC

- Use of DFEs anticipated for Backplane/Cu PMD, but optical PMDs?
- FEC improves link performance but adds latency and complexity
- DFE / Burst Error Relationship
- One FEC architecture / code to share among PMDs to be developed?