2 Gigabit PacketPHY

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Background

- 1G and 10G PacketPHY based on industry standard 8B/10B Ethernet Phys
- 1G Ethernet Phys are based on Fibre Channel technology
- SONET/SDH Reconciliation Layers support bandwidth increases in multiples of 4
- Need for better Bandwidth granularity options for the PacketPHY

WDM Efficiency

- Most widely deployed WDM Lambda is 2.5G
- 1G PacketPHY uses less than ½ of available transport BW

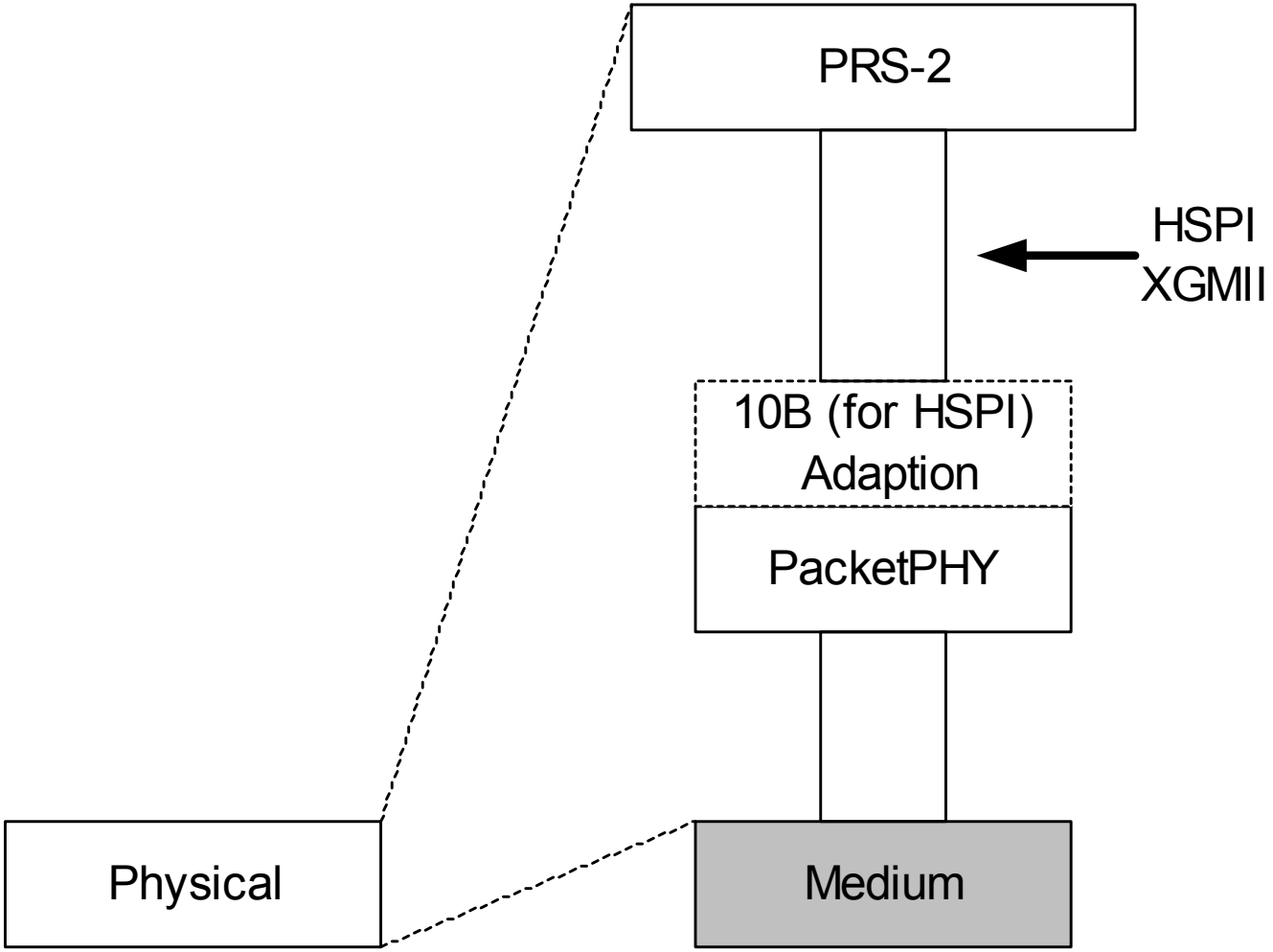
2.125 Gb/s PacketPHY

- Use Fibre Channel 2.125Gb/s technology
  - SERDES
  - Fiber Optic Components
  - Coax & twisted pair not applicable to RPR
- 8B/10B Coding
- Fibre Channel specification defines Interface Requirements ANSI INCITS 352-2002 FC-0
- 10 Bit non-encoded interface defined for the Phy per ANSI T11.2 FC-HSPI

Physical Reconciliation Layer

- 8B/10B Encoder Adaptation Layer
  - Data Encoding
  - Control Characters Insertion
  - Start and End Packet Frame Alignment
- Use same control characters set as PRS-1
- Interface
  - ANSI T11.2 FC-HSPI for 10B Encoder External
  - XGMII for embedded 8B/10B Encoder
    - Multi-rate / Multi-protocol Phys

RPR RS for 2 Gigabit PacketPHY



Conclusion

- Current PacketPHY bandwidth rates have coarse granularity
- Industry Technology supports other Packet transport rates besides 1G and 10G
- Providing more bandwidth granularity for PacketPHY which is comparable to SONET/SDH
- Compatible with existing Optical solution
- Commercial available SERDES and Fiber Optics support additional rate