

RPR Frame Format Proposal

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Luminous Networks

Acknowledgements

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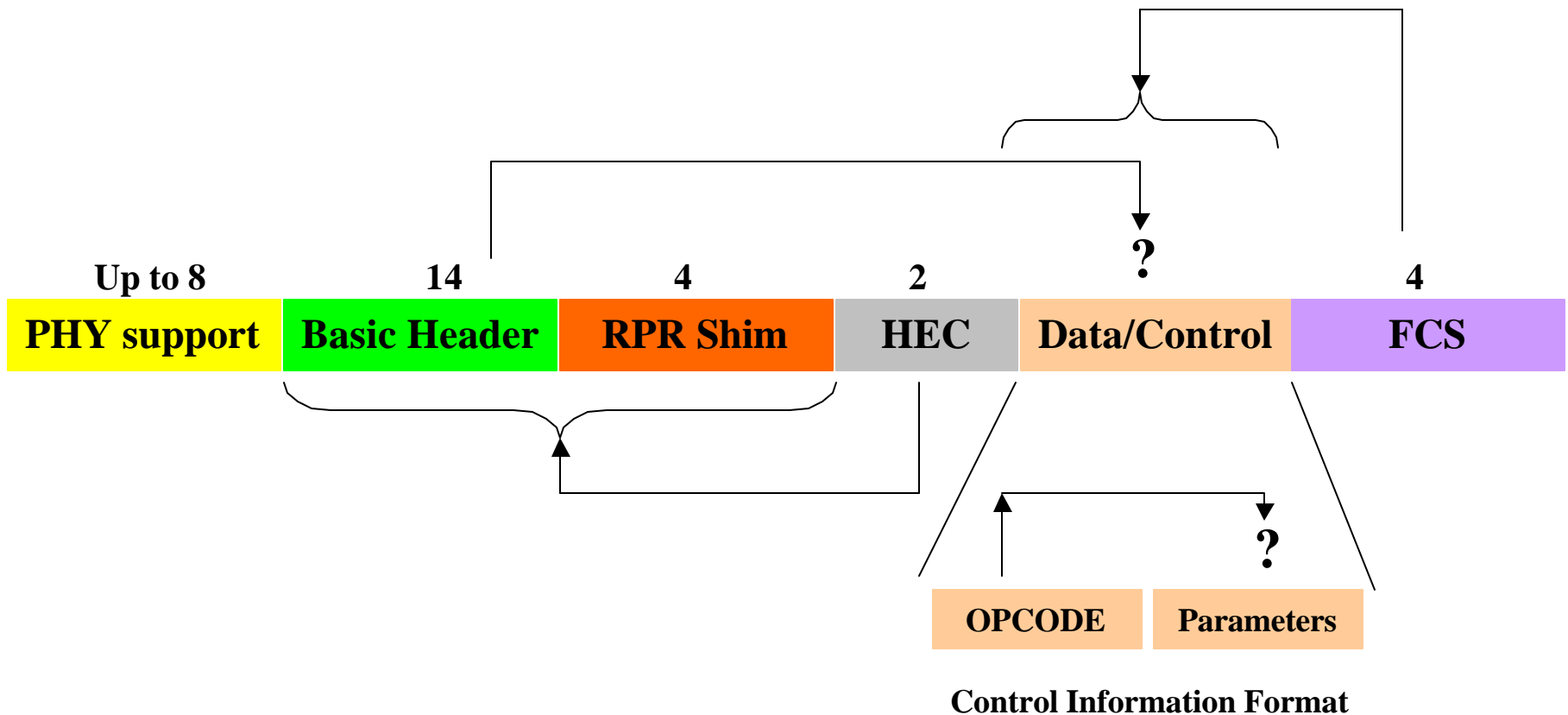
Harry Peng – Nortel

Lu Rovira – Scientific Atlanta

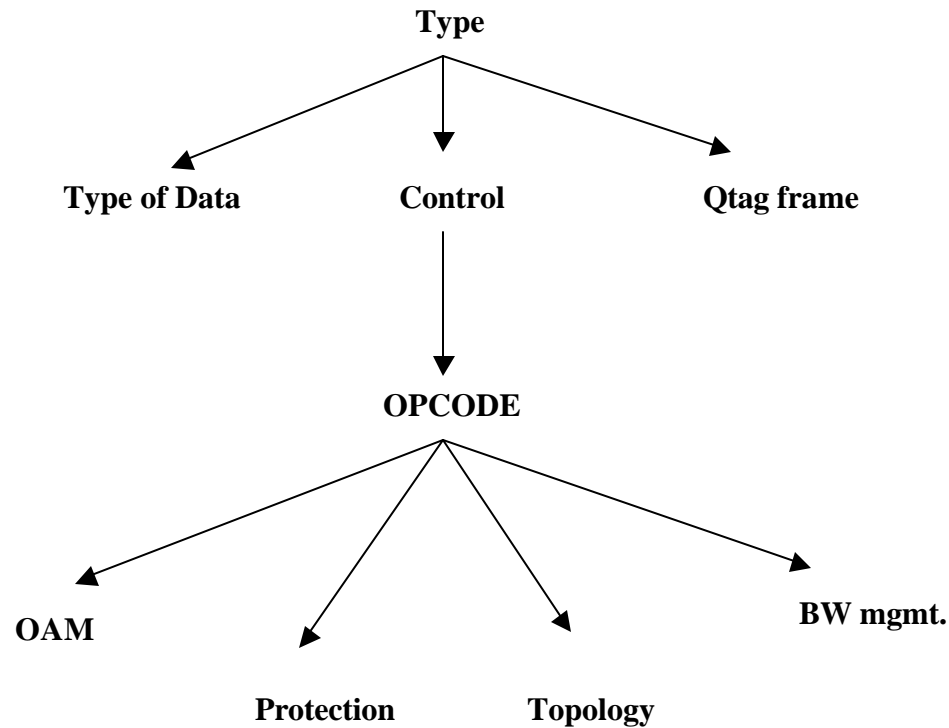
Jun Takagi – Hakuto America, Inc.

Nader Vijeh – Lantern

Format



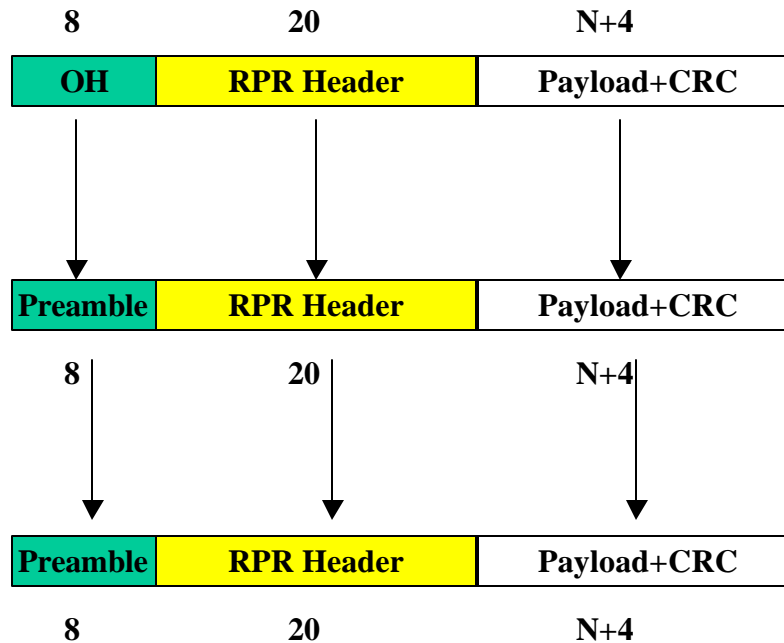
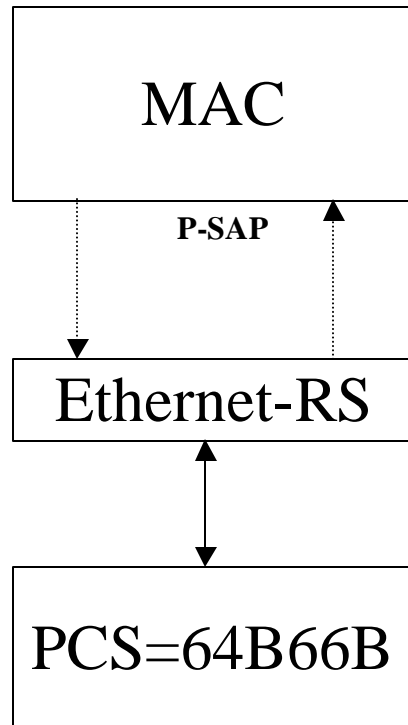
Consistent de-multiplexing



MAC/PHY Adaptation

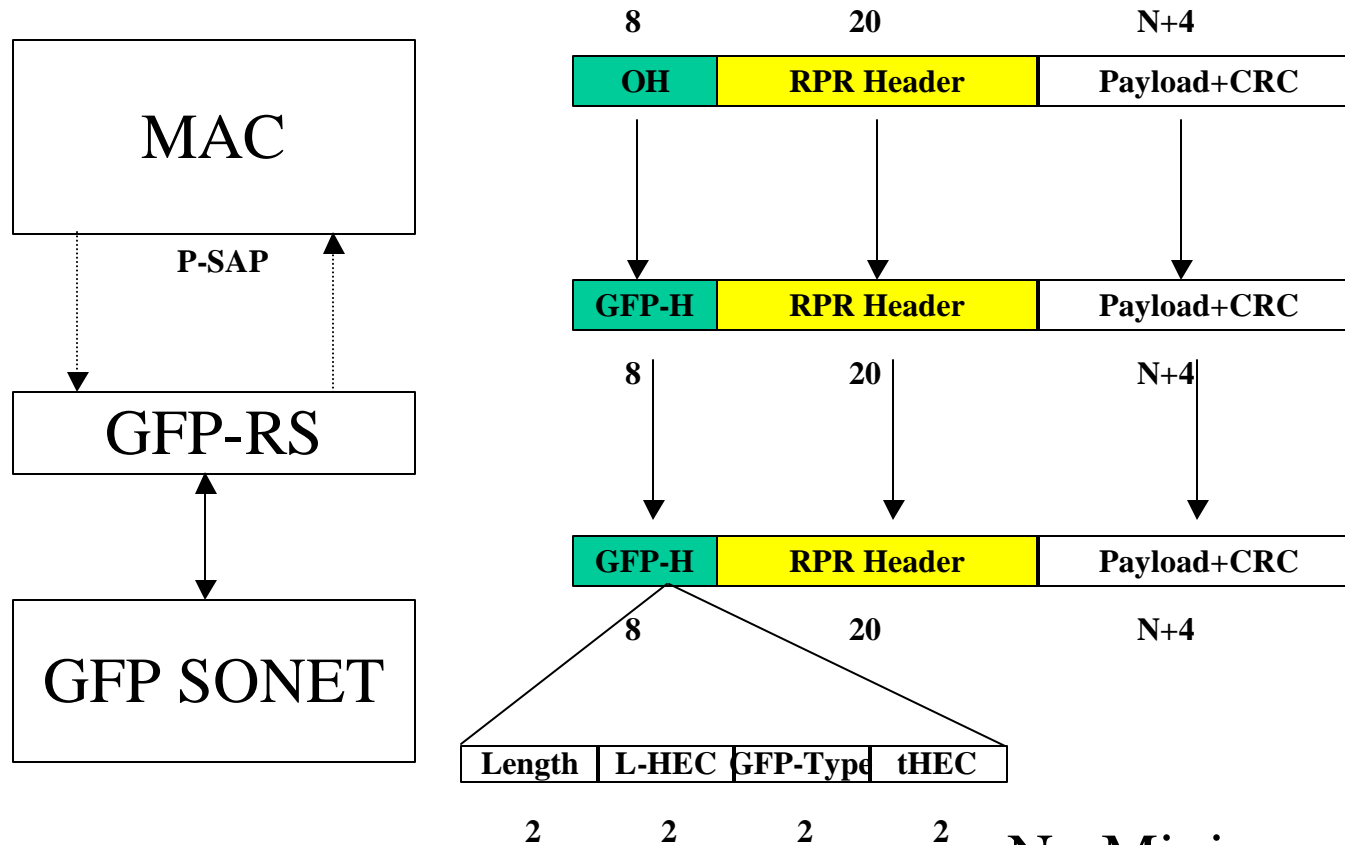
- PHY adds additional bytes over frame-bytes
 - Causes mismatch in data rates for transit path
 - 10 GE – requires 8 bytes of preamble
 - XGMII is 4 Lanes of 8 bits: Lane 0-3
 - PCS requires START on Lane 0,
 - 10 GE RS may not work if SFD is not on Lane 3 in following word
 - GFP
 - 8 bytes used for length, length-HEC, type, type-HEC
 - POS
 - Requires 1 bytes flag/frame
 - POS PHY BW usage on media is not deterministic while escaping this flag in data stream !!!

RPR Frames on GE PHYs



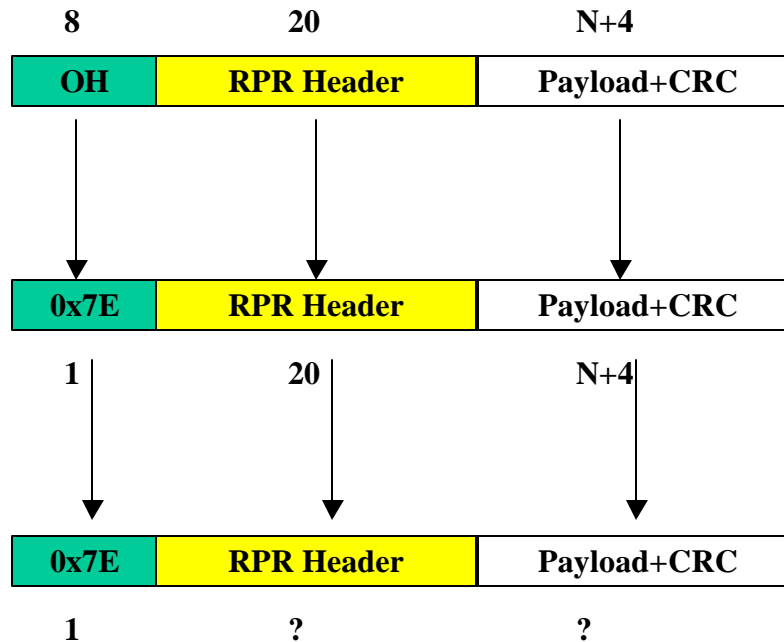
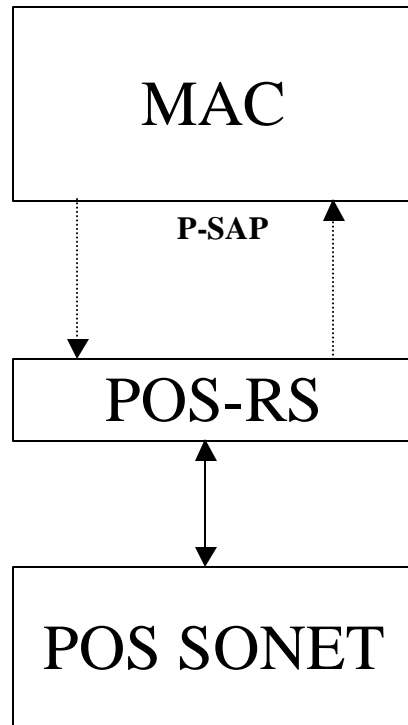
Rules: Minimum IPG required – 5 octets

RPR Frames on GFP PHYs



No Minimum IPG required

RPR Frames on POS PHYs



Actual BW consumed by frame on media is non-deterministic

Why A Format Like This?

- Consistency
- Comprehensive
- Ease implementation
- Meet RPR objectives