

PWE3 Protocol Layering

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Stewart Bryant <stbryant@cisco.com>

Danny McPherson <danny@tcb.net>

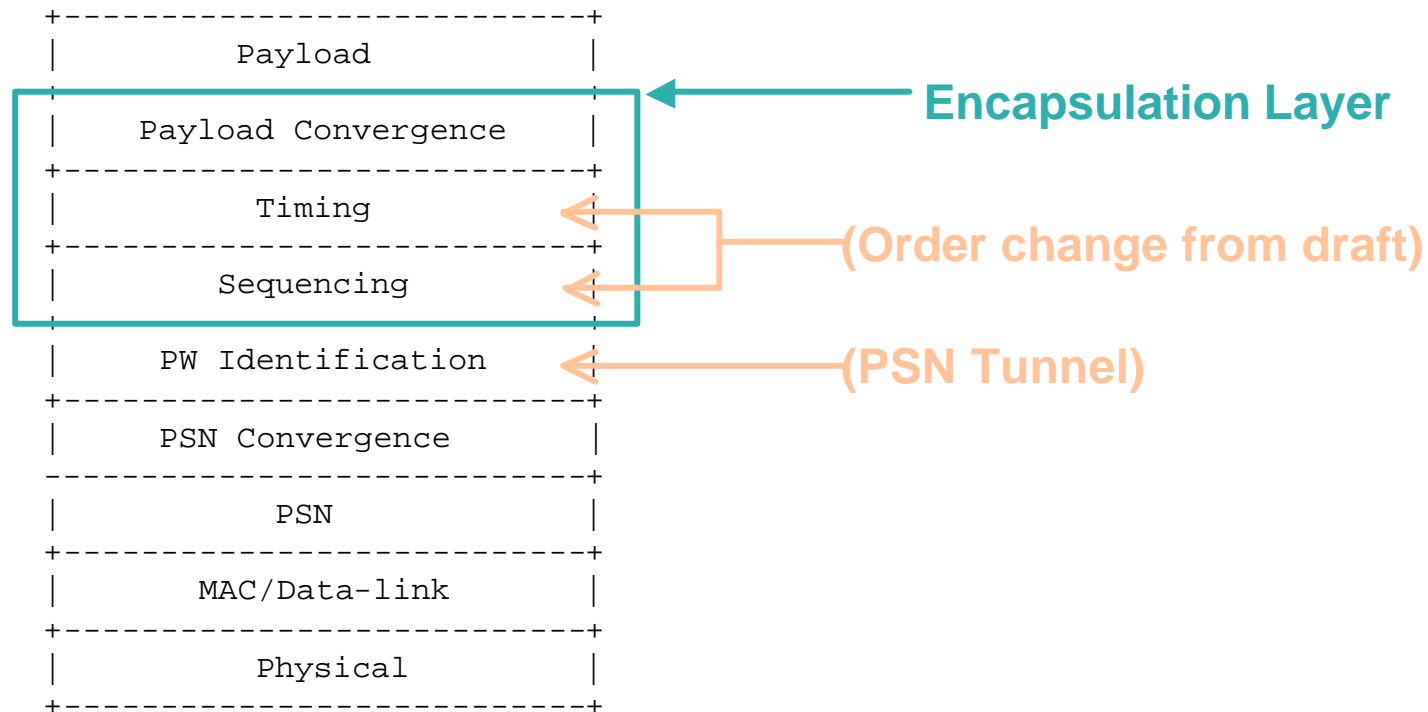
Mark Townsley <mark@townsley.net>

Lloyd Wood <lwood@cisco.com>

Issues

- **Differing IP and MPLS approaches.**
- **Is a PW a wire or is it a more complex network function?**
- **Native Service Processing**
- **Principle of Minimum Intervention**
- **Details**

Protocol Layering



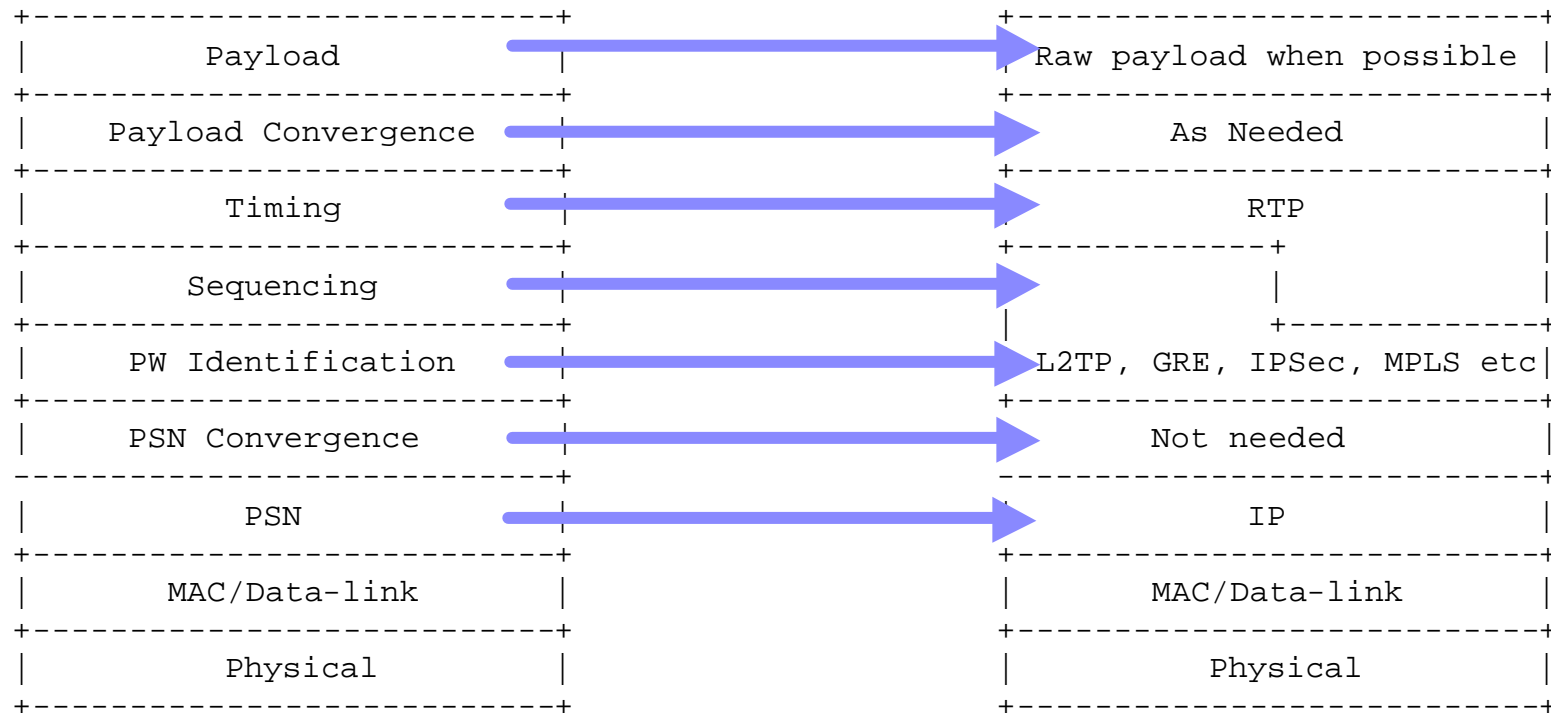
Goals:

- Identify the “necessary and sufficient” functionality of a PW (faithfulness).
- Isolate PW from the PSN differences.
- Partition native services and wire function.

PW over IP

- **IP ethos places a great importance on generality and re-use.**
- **Employ existing IETF protocols where possible.**

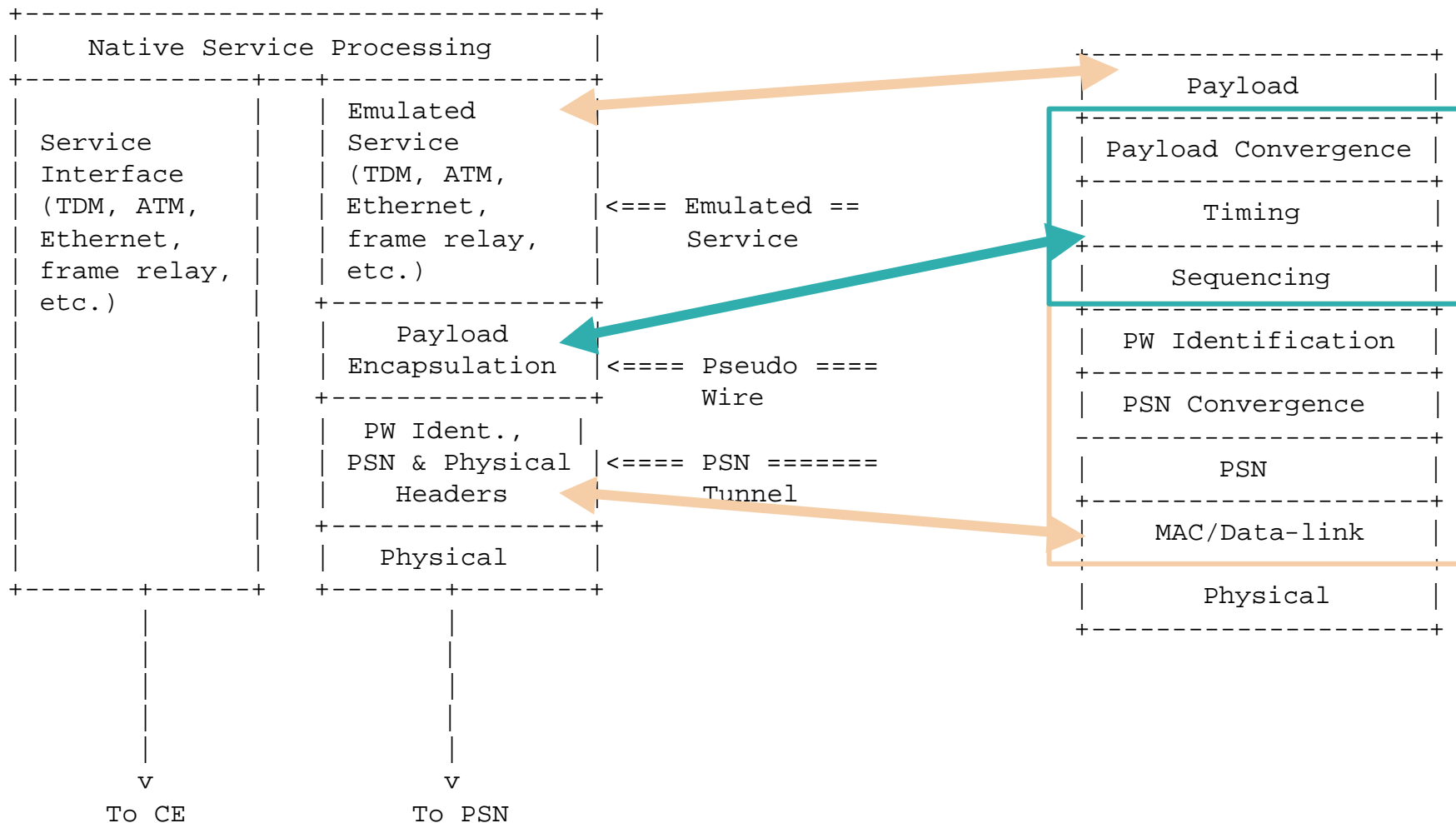
IP and the PLD



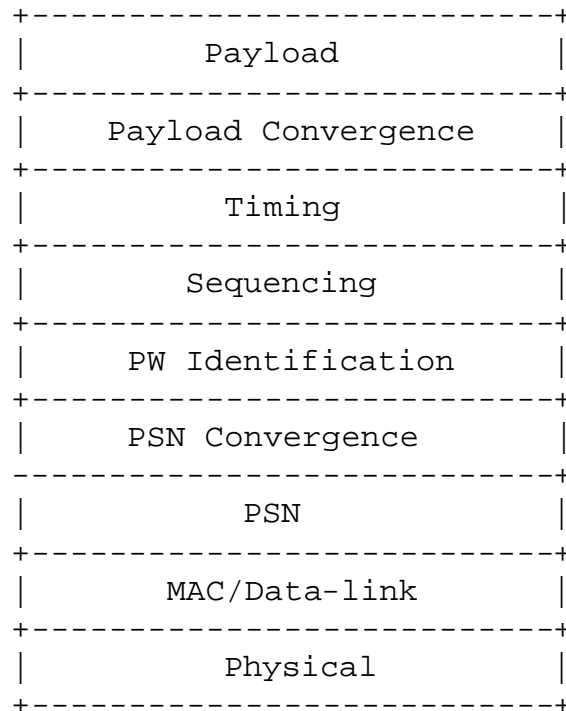
draft-Martini and the PLD

- **MPLS ethos places a great importance on wire efficiency.**
- **Martini approach has all the components of the PLD but compressed for maximum wire efficiency.**

Native Service Processing Model



Principle of Minimum Intervention



Is the Principle of Minimum Intervention the right approach?

Does it depend on the PSN?

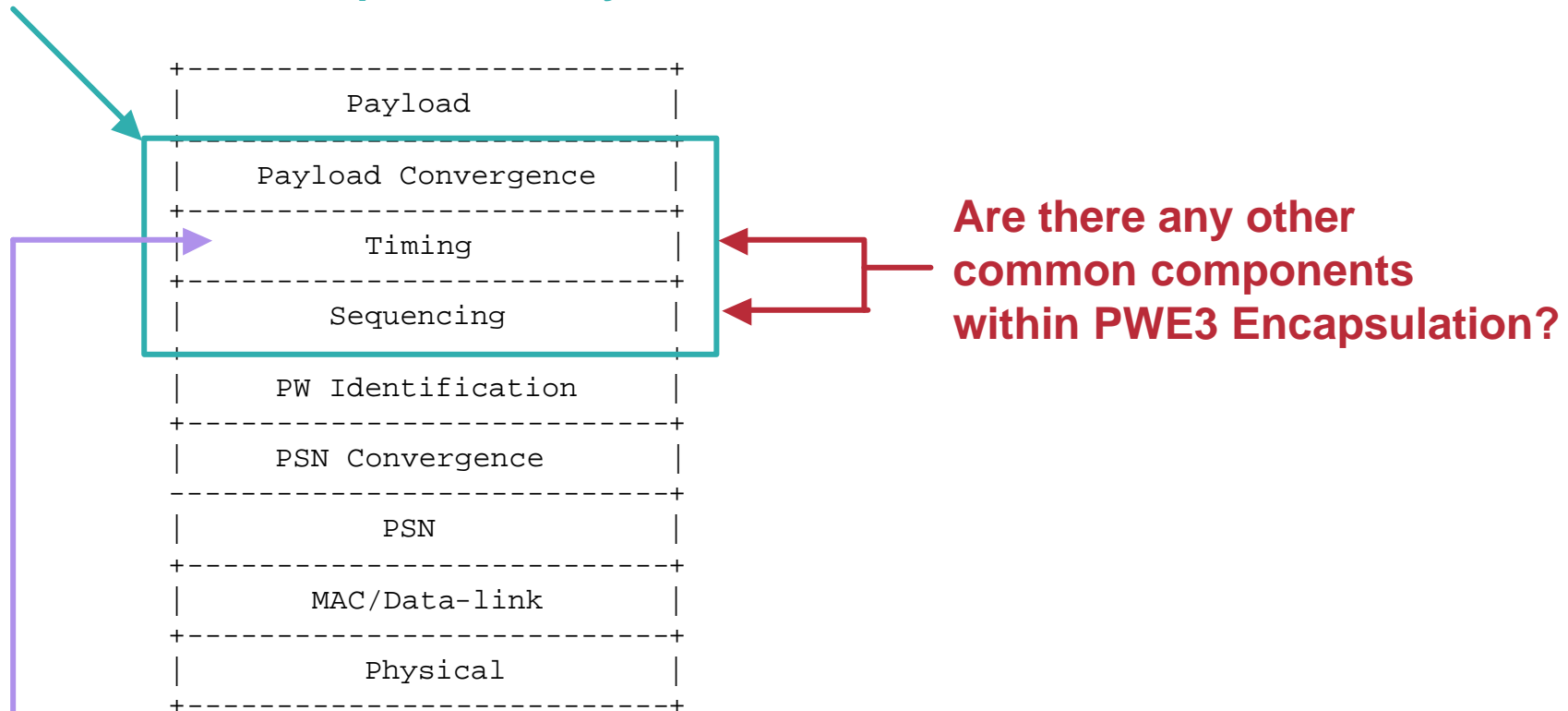
RFC 1925 & RFC 1958

Principle of Minimum Intervention

- **Non-Intervention**
 - Decouples payload development from PW development.
 - Fewer translations at NSP for same to same.
- **Intervention**
 - Can be more wire efficient
 - Fewer translations at NSP for any to any
 - Introduces new framing type

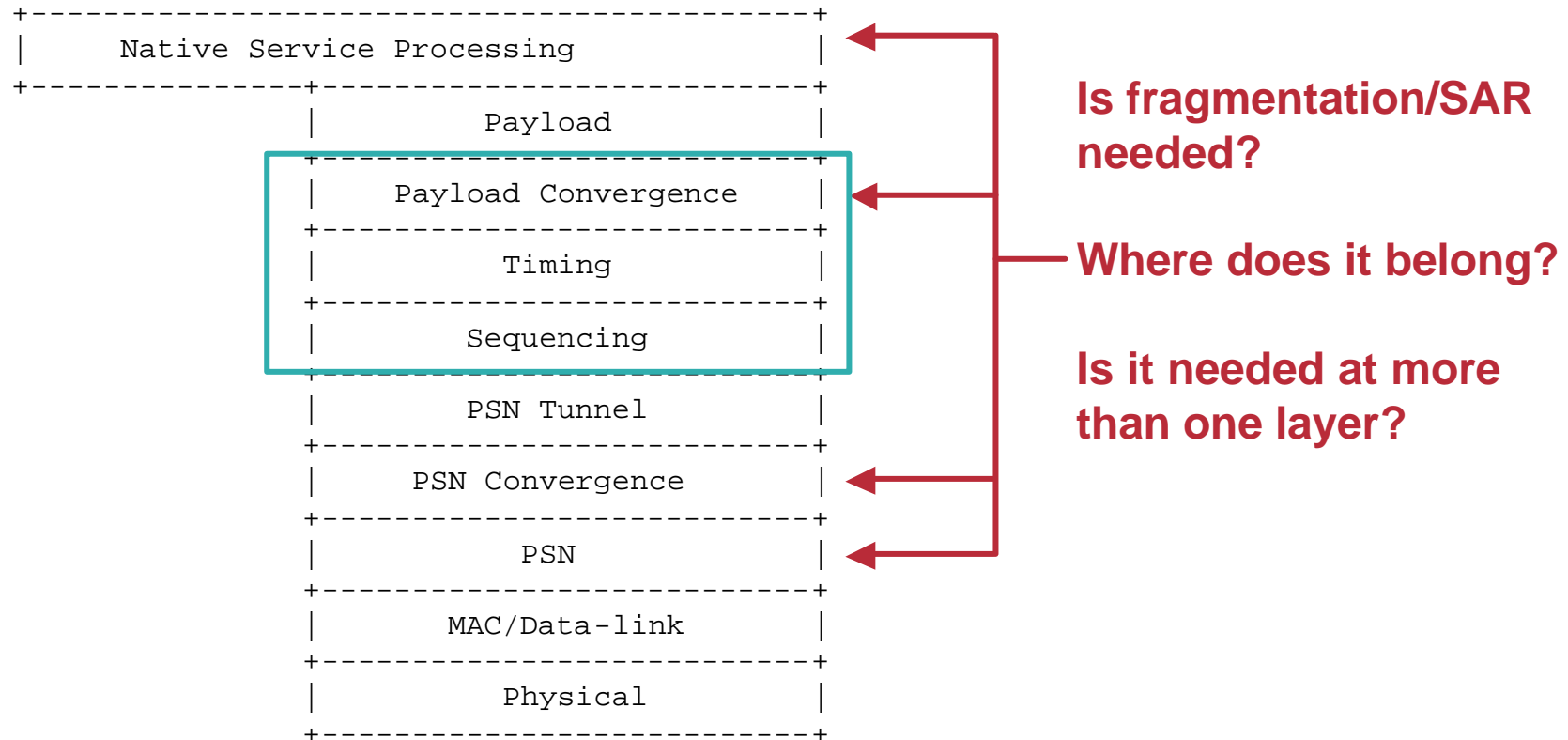
More Common Services?

Pseudo-wire encapsulation layer

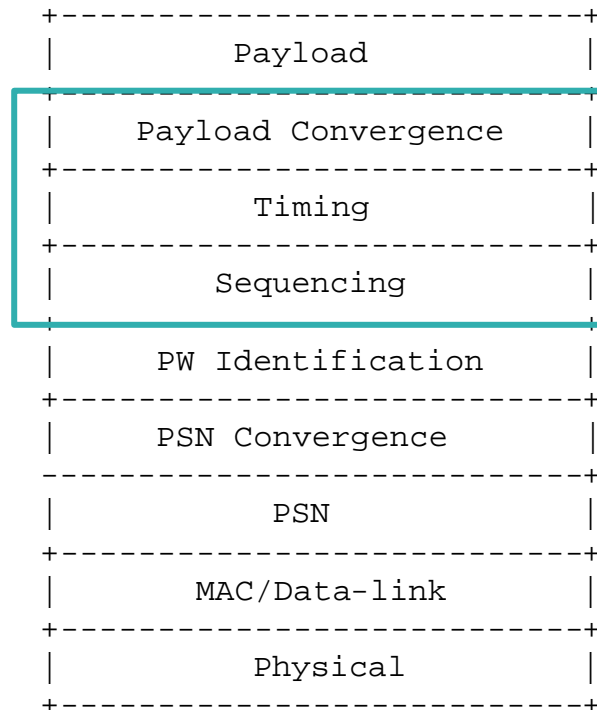


Note that reference clock can be in-band or out-band

Segmentation and Reassembly



Delivery Requirements



← How many channel types are needed to carry and maintain the PW?

**Reliable Control channel?
+ data channel(s) with
the following characteristics:**

- High priority sequenced?
- Sequenced?
- Unreliable?