Ethernet packet encapsulation

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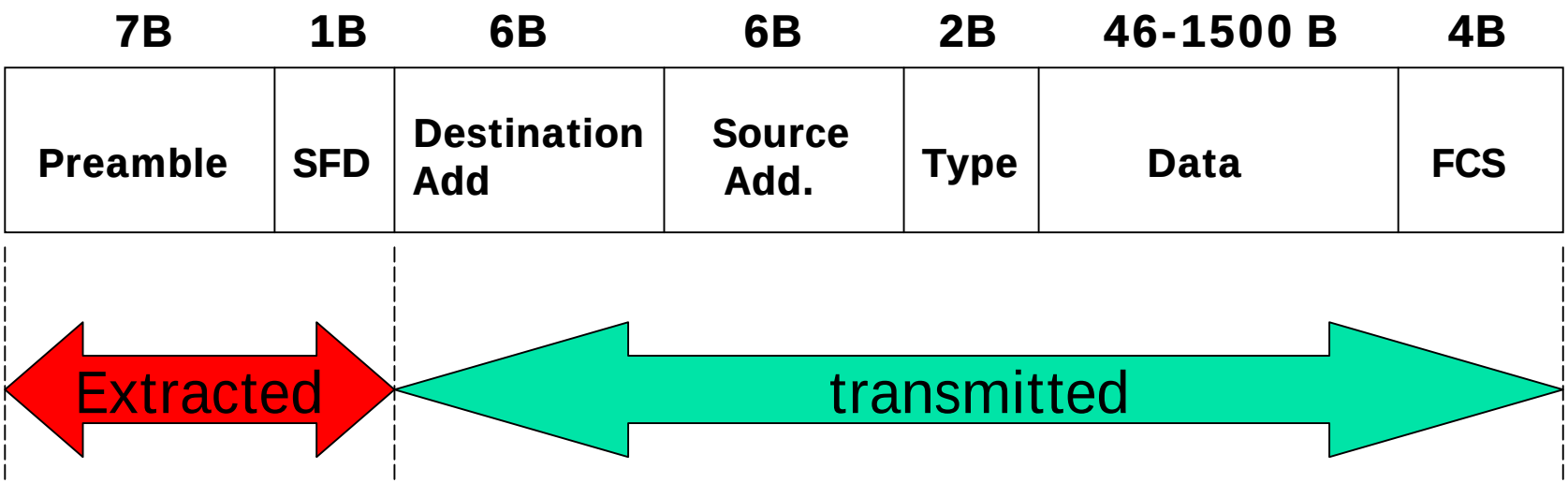
General

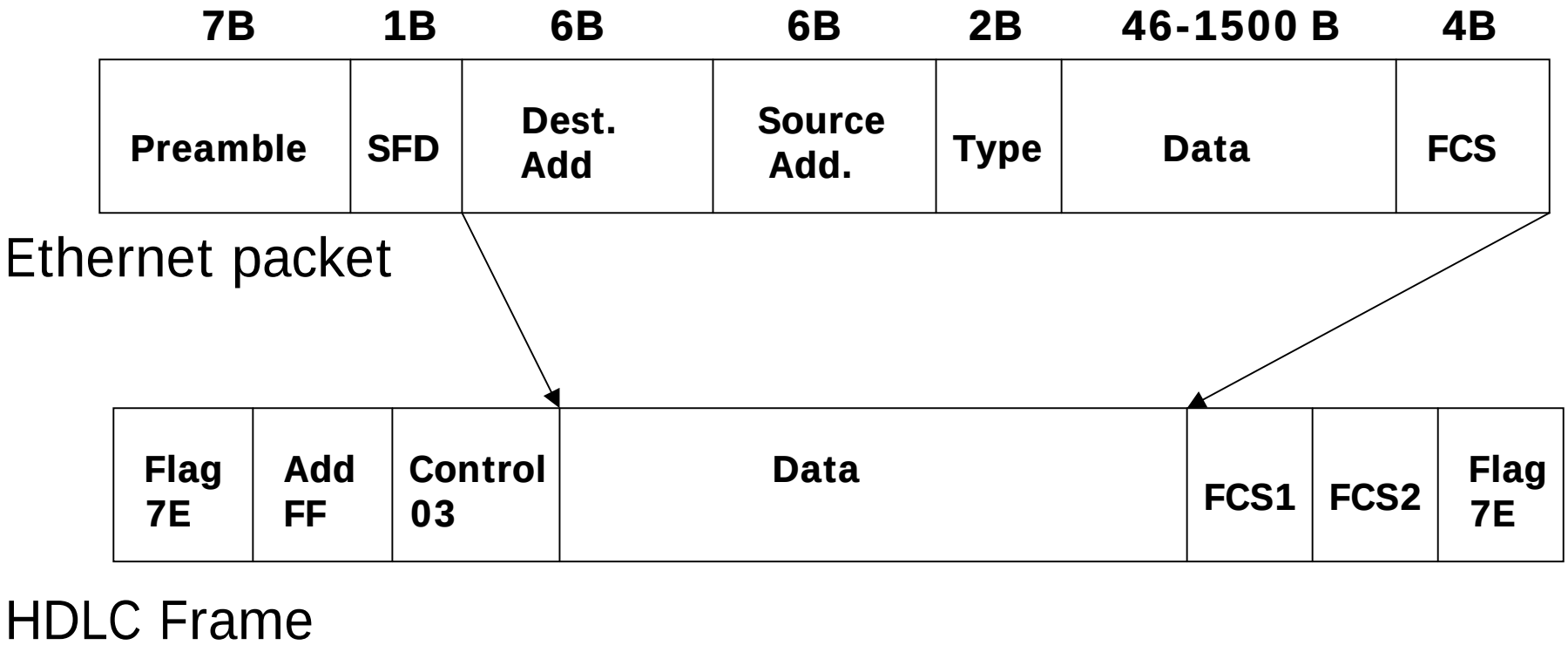
This proposal describes a structure of the Ethernet packet within any encapsulation frame.

- Preamble and SFD will be extracted at the transmitter PHY while encapsulated, and will be restored at the receiver PHY.



Example

The following is an example which depicts the proposed encapsulation within HDLC frame:



Why to define this way ?

- Reduces the overhead by 8 bytes
- Preamble & SFD are constant: easy to restore
- Not needed for the functionality of the VDSL-based PHY
- OAM-in-preamble is not used in EFM copper
- Does not harm reliability
- MAC remains unchanged

Proposal

- Ethernet packet will be encapsulated without the Preamble and without the SFD fields. Receiver will restore the packet before passing it to the MII/MAC layer.