Proposed Baseline to Implement Objectives

IEEE P802.3de Enhancements to MAC Merge and TSSI for Point-to-Point 10 Mb/s SPE Task Force

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Electronic meeting, 12 October 2021

Reference Material

- Contributions Made to the Study Group have provided needed changes for Clause 99
  - 10BASE-T1L and Full-duplex 10BASE-T1S:
    - Slides 25 & 27 of https://www.ieee802.org/3/cfi/0321_1/CFI_01_0321.pdf
  - Half duplex pt-to-pt 10BASE-T1S:
    - Slide 13 of https://www.ieee802.org/3/SPEP2P/public/jones_3spep2p_01_04282021.pdf
  - Text slightly modified to fit scope of PAR
- Objectives discussion for TSSI was to “backstop” 802.3da work
  - Borrowed adopted text from 802.3da in clause 90 to support half-duplex
  - Adapted NOTE 1 to figure, as in clause 99
  - Care needs to be taken in Clause 90 since 802.3cx is doing a big rewrite

Clause 90

- Proposed change to introduction adds Cl 147 pt-to-pt half duplex only
- Change note to add 10 Mb MII per .3cg
- Change TX_indication semantic as per .3da

90. Ethernet support for time synchronization protocols

90.1 Introduction

Change the second paragraph of 90.1 as follows:

The TSSI is defined for the full-duplex mode of operation, as well as Clause 147 PHYs in point-to-point half-duplex mode~~only~~. It supports MAC operation at various data rates. The MII (Clause 22), GMII (Clause 35), XGMII (Clause 46), 25GMII (Clause 106), XLGMII (Clause 81), CGMII (Clause 81), 200GMII (Clause 117), and 400GMII (Clause 117) specifications are all compatible with the gRS sublayer defined in 90.5.

Change NOTE 1 in Figure 90-1 as shown:

NOTE 1—In this figure, the xMII is used as a generic term for the Media Independent Interfaces for implementations of 10BASE-T1L, 10BASE-T1S, and 100 Mb/s and above. For example: for 100 Mb/s implementations this interface is called MII; for 1 Gb/s implementations, it is called GMII; for 10 Gb/s implementations, it is called XGMII; etc.

Insert a new final paragraph in 90.4.3.1.1 as shown:

When using the half-duplex mode of operation, multiple TS_TX indications may be produced for a single MA_DATA.request as a result of collisions on the media.

Clause 99: Including 10 Mb/s

- Change 1st sentence & NOTE on figure

99.1 Introduction

Change the first sentence of 99.1 as shown:

This clause specifies an optional MAC Merge sublayer for use on a point-to-point link with a pair of ~~full-duplex~~ MACs and a single PHY operating at 100 Mb/s or higher, as well as Clause 146 10BASE-T1L, and Clause 147 10BASE-T1S PHYs ~~on a point-to-point link~~.

Change the NOTE in Figure 99.1 as shown:

NOTE—In this figure, the xMII is used as a generic term for the Media Independent Interfaces for implementations of 10BASE-T1L, 10BASE-T1S, and 100 Mb/s and above. For example: for 100 Mb/s implementations this interface is called MII; for 1 Gb/s implementations it is called GMII; for 10 Gb/s implementations it is called XGMII; etc.

Clause 99: Half-Duplex

- Clarify Express Filter & Receiver Processing pass SIGNAL_STATUS

99.4 MAC Merge sublayer operation

99.4.5 Receiver processing

Change the twelfth (final) paragraph of 99.4.5 as shown:

If a PLS_SIGNAL.indication is received from the PLS, PLS_SIGNAL.indication with the same SIGNAL_STATUS shall be sent to the pMAC. ~~never produced by Receive processing since it does not apply to full duplex PHYs.~~

99.4.6 Express filter

Change the third (final) paragraph of 99.4.6 as shown:

If a PLS_SIGNAL.indication is received from the PLS, PLS_SIGNAL.indication with the same SIGNAL_STATUS shall be sent to the eMAC. ~~never produced by Express filter since it does not apply to full duplex PHYs.~~

Straw Poll

I support adopting the baseline as in zimmerman_3de_01_20211012.pdf

- Y: 9
- N: 0
- A: 0
- 9 individuals (other than Chair) on the dcall

Motion #2

Move to adopt the baseline as in zimmerman_3de_01_20211012.pdf

- Motion passes without objection
- M: Chad Jones
- S: Gergely Huszak

Thank You!