IEEE 802.3da SPMD TF
TSSI text to adopt.

Peter Jones - Cisco

Clause 90 Changes

Changes

90.1 Introduction –

Replace "The TSSI is defined for the full-duplex mode of operation only." with "The TSSI is defined for the full-duplex mode of operation*, as well as clause 147 half-duplex point-to-point and multidrop.*"

90.4.3.1.1 Semantics

Add the following paragraph to the end of 90.4.3.1.1 Semantics,

"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.

Resulting Text

90. Ethernet support for time synchronization protocols

90.1 Introduction

This clause specifies the optional Time Synchronization Service Interface (TSSI). The TSSI can be used to support protocols that require knowledge of packet egress and ingress time.

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

90.4.3.1.1 Semantics

The semantics of the primitive are as follows:

TS_TX.indication(SFD, MM)

The SFD parameter can take only one possible value, DETECTED. When asserted (SFD = DETECTED), the TimeSync Client is notified that a valid SFD was detected by the gRS sublayer TS_SFD_Detect_TX function (see 90.5.1) in the xMII transmit signals.

The MM parameter is mandatory when the MAC Merge sublayer (see Clause 99) is instantiated. The MM parameter, when present, can take one of two possible values, i.e., PMAC or EMAC. The value EMAC indicates the SMD-E (SFD) value has been detected at the xMII. The value PMAC indicates that an SMD-S value has been detected at the xMII (see Table 99–1). The MM parameter is not provided when MAC Merge sublayer is not instantiated.

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 148 Changes

Changes

Clause 148.4.1 General

Modify "Figure 148-2--PLCA functions within the Reconciliation Sublayer (RS)" to add *TS_TX.indication, TS_RX.indication, SFD DETECT TX* and *SFD DETECT RX* as shown in 802.3cg 2019 D2.0 Figure 148-2.

Insert the following subclause before "148.4.2 Mapping of MII signals to PLS service primitives and PLCA functions"

Operation with TSSI

When TSSI is supported, transmit SFD detection occurs after the PLCA variable delay line, as shown in Figure 148-2.

Clause 90 defines TS_TX.indication (90.4.3.1) and TS_RX.indication (90.4.3.2). Clause 90 also defines TS_SFD_Detect_TX (90.5.1) and TS_SFD_Detect_RX(90.5.2), these are shown in Figure 148-2 as SFD DETECT TX and SFD DETECT RX respectively.

Resulting Text

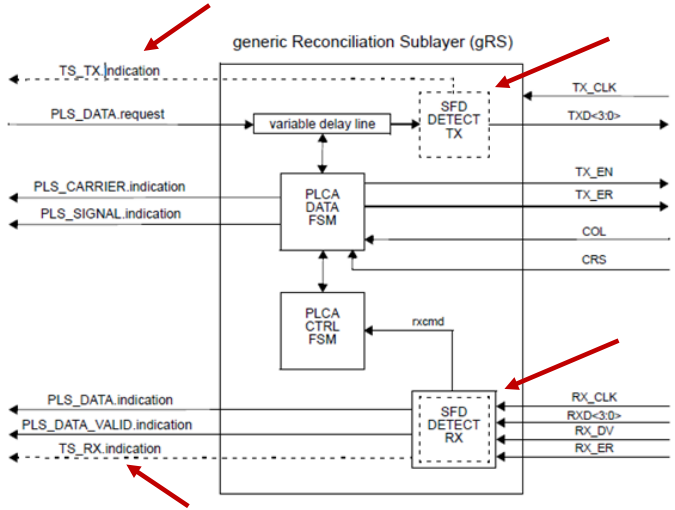

Figure 148–2—PLCA functions within the Reconciliation Sublayer (RS)

148.4.2.1 Operation with TSSI

When TSSI is supported, transmit SFD detection occurs after the PLCA variable delay line, as shown in Figure 148-2.

Clause 90 defines TS_TX.indication (90.4.3.1) and TS_RX.indication (90.4.3.2). Clause 90 also defines TS_SFD_Detect_TX (90.5.1) and TS_SFD_Detect_RX(90.5.2), these are shown in Figure 148-2 as SFD DETECT TX and SFD DETECT RX respectively.

148.4.3 Mapping of MII signals to PLS service primitives and PLCA functions

The RS maps the signals provided at the MII to the PLS service primitives defined in Clause 6 via the PLCA state diagrams, variables, and functions (see 148.4.5 and 148.4.6). The PLS service primitives provided by the RS behave in exactly the same manner as defined in Clause 6.

Motion #??

- Adopt the changes shown in slides 2 and 3 of jones_spmd_01_11182020.pdf as baseline text in support of our approved objective "Support optional Time Synchronization Service Interface (TSSI)."

  Move: Peter Jones

  Second:

  Y:

  N:

  A:

  Technical (75%) Passes/Fails

Consensus

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