Additional D0.b comments associated with adding 7.5 and 1 Gb/s High-Speed Operation

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Introduction

- **D0.b comments Gorshe 256 and 257 proposed adding 1 Gb/s and 7.5 Gb/s high-speed interfaces respectively to clause 202**
  - The files attached to these comments provided a complete list of the associated clause 202 edits

- **It was subsequently noted that these additions would require additional comments for incorporation into clauses 4, 30, 45 and 46. This presentation provides the associated comment information relative to D0.b**

Clause 4 comments

- **Table 4-2 appears in sub-clause 4.4.1, which include the statement** "A DTE shall be capable of operating in half duplex mode, full duplex mode, or both. In any given instantiation of a network conforming to this standard, all stations shall be configured to use the same mode of operation, either half duplex or full duplex"
- **Since P803.dm PHYs use XGMII, which does not support half-duplex, it does not appear that 7.5G needs to be added to this table.**
- **Further, Table 4A-2 (Full duplex MAC parameter values) of Annex 4A covers the full duplex scenarios without enumerating on the different MAC rates, it appears that it sufficiently covers the P802.3dm PHY.**
- **Consequently, no modification is required for Table 4-2**

Clause 30 comments (1)

- **30.3.2.1.2** (page 31, line 10 of D0.b))
  - Add: *"Insert the following new entries in the **APPROPRIATE SYNTAX** section of 30.3.2.1.2 ahead of the entry for "2.5GBASE-T" as follows:"*
    - 1G+100MBASE-T1/V1 Clause 202 1 Gb/s PAM2 transmit, 100 Mb/s PAM2 receive
    - 100M+1GBASE-T1/V1 Clause 202 100 Mb/s PAM2 transmit, 1 Gb/s PAM2 receive
  - Add: *"Insert the following new entries in the **APPROPRIATE SYNTAX** section of 30.3.2.1.2 after of the entry for "5GBASE-T1" as follows:"*
    - 7.5G+100MBASE-T1/V1 Clause 202 7.5 Gb/s PAM3 transmit, 100 Mb/s PAM2 receive
    - 100M+7.5GBASE-T1/V1 Clause 202 100 Mb/s PAM2 transmit, 7.5 Gb/s PAM3 receive

Clause 30 comments (2)

- **30.3.2.1.3** (page 31, line 43 of D0.b))
  - Add: *"Insert the following new entries in the **APPROPRIATE SYNTAX** section of 30.3.2.1.2 ahead of the entry for "2.5GBASE-T" as follows:"*
    - 1G+100MBASE-T1/V1 Clause 202 1 Gb/s PAM2 transmit, 100 Mb/s PAM2 receive
    - 100M+1GBASE-T1/V1 Clause 202 100 Mb/s PAM2 transmit, 1 Gb/s PAM2 receive
  - Add: *"Insert the following new entries in the **APPROPRIATE SYNTAX** section of 30.3.2.1.2 after of the entry for "5GBASE-T1" as follows:"*
    - 7.5G+100MBASE-T1/V1 Clause 202 7.5 Gb/s PAM3 transmit, 100 Mb/s PAM2 receive
    - 100M+7.5GBASE-T1/V1 Clause 202 100 Mb/s PAM2 transmit, 7.5 Gb/s PAM3 receive

Clause 45 comments (1)

- **Table 45-9** (page 34, line 32 of D0.b))
  - In the first populated cell, add:
    - “1G+100MBASE-T1” to the beginning of the list,
    - “7.5G+100MBASE-T1” ahead of 10G+100MBASE-T1,
    - “1G+100MBASE-V1” after 10G+100MBASE-T1,
    - “7.5G+100MBASE-V1” ahead of 10G+100MBASE-V1,

  - In the second populated cell, add:
    - “100M+1GMBASE-T1” to the beginning of the list,
    - “100M+7.5GBASE-T1” ahead of 100M+10GMBASE-T1,
    - “100M+1GBASE-V1” after 100M+10GMBASE-T1,
    - “100M+7.5GBASE-V1” ahead of 100M+10GBASE-V1,

Clause 45 comments (2)

- **Table 45-9** (page 35, line 1 of D0.b))
  - In the first populated cell, add:
    - “1G+100MBASE-T1” to the beginning of the list,
    - “7.5G+100MBASE-T1” ahead of 10G+100MBASE-T1,
    - “1G+100MBASE-V1” after 10G+100MBASE-T1,
    - “7.5G+100MBASE-V1” ahead of 10G+100MBASE-V1,

  - In the second populated cell, add:
    - “100M+1GMBASE-T1” to the beginning of the list,
    - “100M+7.5GBASE-T1” ahead of 100M+10GMBASE-T1,
    - “100M+1GBASE-V1” after 100M+10GMBASE-T1,
    - “100M+7.5GBASE-V1” ahead of 100M+10GBASE-V1,

Clause 45 comments (3)

- **Table 45-58f** (page 35, line 24 of D0.b)) - **Add the following rows to the top of the table:**
  - Note that the new rows exceed the available reserved register bit field space

	7.5G+100MBASE-V1 ability	1 = PMA/PMD is able to perform 7.5G+100MBASE-V1 0 = PMA/PMD is not able to perform 7.5G+100MBASE-V1	RO
	100M+7.5GBASE-V1 ability	1 = PMA/PMD is able to perform 100M+7.5GBASE-V1 0 = PMA/PMD is not able to perform 100M+7.5GBASE-V1	RO
	7.5G+100MBASE-T1 ability	1 = PMA/PMD is able to perform 7.5G+100MBASE-T1 0 = PMA/PMD is not able to perform 7.5G+100MBASE-T1	RO
	100M+7.5GBASE-T1 ability	1 = PMA/PMD is able to perform 100M+7.5GBASE-T1 0 = PMA/PMD is not able to perform 100M+7.5GBASE-T1	RO
	1G+100MBASE-V1 ability	1 = PMA/PMD is able to perform 1G+100MBASE-V1 0 = PMA/PMD is not able to perform 1G+100MBASE-V1	RO
	100M+1GBASE-V1 ability	1 = PMA/PMD is able to perform 100M+1GBASE-V1 0 = PMA/PMD is not able to perform 100M+1GBASE-V1	RO
	1G+100MBASE-T1 ability	1 = PMA/PMD is able to perform 1G+100MBASE-T1 0 = PMA/PMD is not able to perform 1G+100MBASE-T1	RO
	100M+1GBASE-T1 ability	1 = PMA/PMD is able to perform 100M+1GBASE-T1 0 = PMA/PMD is not able to perform 100M+1GBASE-T1	RO

Clause 45 comments (4)

- **In clause 45.2.1.60f** (page 36, line 21 of D0.b)) - **Add the following sub-clauses:**

45.2.1.60f.13 100M+1GBASE-T1 **(1.77.xx)**
When read as a one, bit 1.77.xx indicates that the PMA/PMD is able to operate as a 100M+1GBASE-T1 PMA/PMD type.
When read as a zero, bit 1.77.xx indicates that the PMA/PMD is not able to operate as a 100M+1GBASE-T1 PMA/PMD type

- Similarly, add new clauses 45.2.1.60f.14 through 45.2.1.60f.19 for:

7.5G+100MBASE-V1 ability
100M+7.5GBASE-V1 ability
7.5G+100MBASE-T1 ability
100M+7.5GBASE-T1 ability
1G+100MBASE-V1 ability
100M+1GBASE-V1 ability
1G+100MBASE-T1 ability

Clause 45 comments (5)

- **Table 45-178** (page 39, line 8 of D0.b)) - **Add the following rows to the top of the table:**

  7.5G+100MBASE-V1 ability
  100M+7.5GBASE-V1 ability
  7.5G+100MBASE-T1 ability
  100M+7.5GBASE-T1 ability
  1G+100MBASE-V1 ability
  100M+1GBASE-V1 ability
  1G+100MBASE-T1 ability
  100M+1GBASE-T1 ability

- Note that as with Table 45-58f, the new rows exceed the available reserved register bit field space

Clause 46 comments (1)

- (page 40, line 9 of D0.b)
  - In two places in that paragraph, amend “2.5 Gb/s, 5 Gb/s and 10 Gb/s” to be “1 Gb/s, 2.5 Gb/s, 5 Gb/s, 7.5 Gb/s and 10 Gb/s”
- (page 40, line 18 of D0.b)
  - Change “2.5 Gb/s, 5 Gb/s and 10 Gb/s” to be “1 Gb/s, 2.5 Gb/s, 5 Gb/s, 7.5 Gb/s and 10 Gb/s”
- (page 40, line 26 of D0.b)
  - Change “2.5 Gb/s, 5 Gb/s and 10 Gb/s” to be “1 Gb/s, 2.5 Gb/s, 5 Gb/s, 7.5 Gb/s and 10 Gb/s”
- (page 40, line 41 of D0.b)
  - Change “2.5 Gb/s, 5 Gb/s and 10 Gb/s” to be “1 Gb/s, 2.5 Gb/s, 5 Gb/s, 7.5 Gb/s and 10 Gb/s”
- Note that it is not clear whether the paragraph under 46.1.2 (page 40, line 33) or the PICS table (page 42, line 5) need updates for 1 and 7.5 Gb/s. There are no existing 7.5 Gb/s PHYs and the existing 1 Gb/s do not use XGMII as would be used with P802.3dm

Conclusions

- We propose adding these edits to the D0.b comments of Gorshe 256 and 257 in order to complete the P802.3dm specification for 1 Gb/s and 7.5 Gb/s high-speed interfaces respectively to clause 202

Thank You