

PMD naming

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IEEE P802.3bs Task Force, Waikoloa HI, July 2015

PMD names

The individual letters in the PMD names used to have meaning (See IEEE Std 802.3 Clause 1.2.3)

The P802.3ba project recognised that general industry understanding did not always coincide with original 802.3 meaning:

10GBASE-LR “long reach” – 10,000 search engine hits

10GBASE-LR “long wavelength” – 3,000 search engine hits

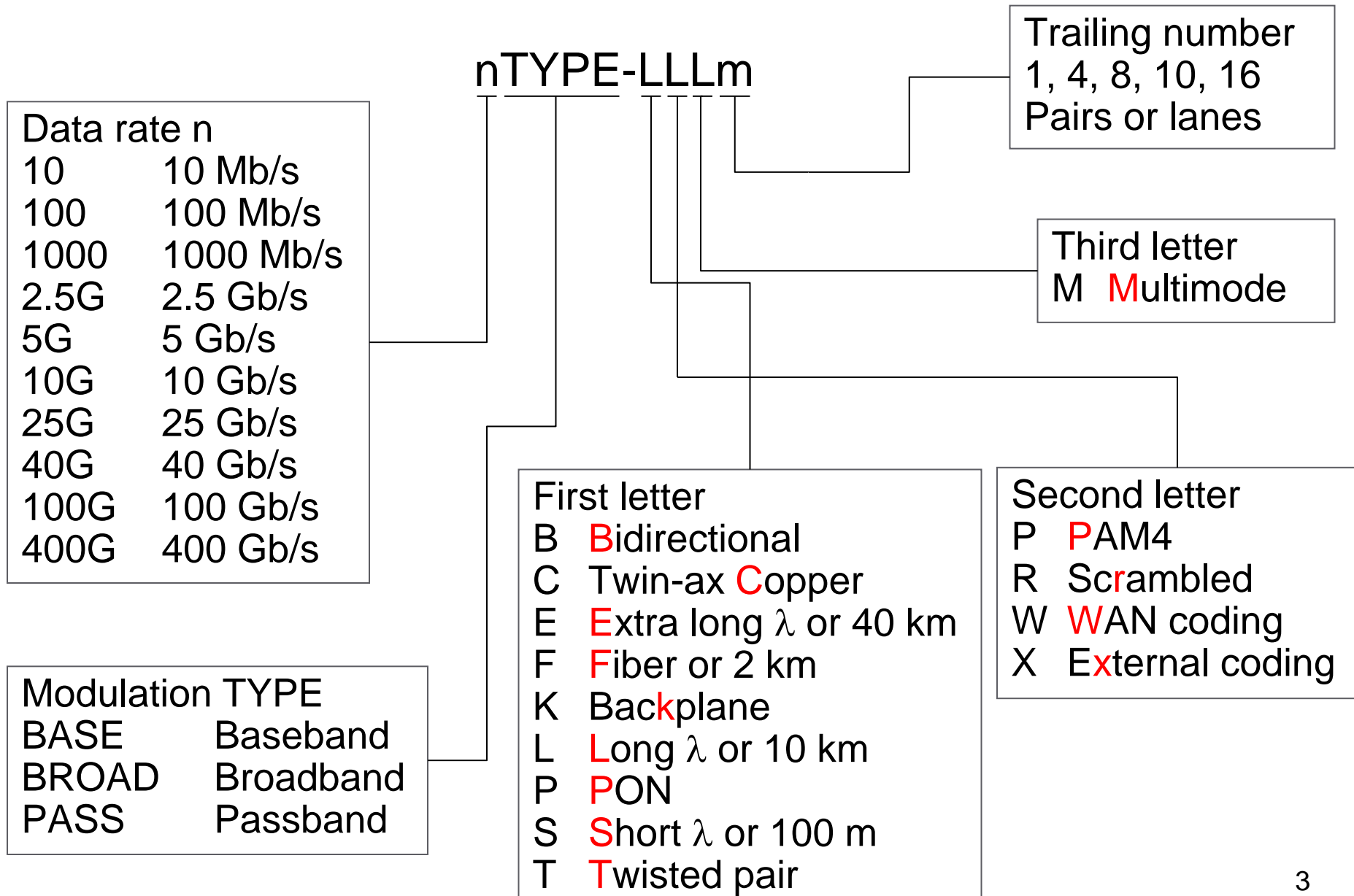
So, for 40 Gb/s and 100 Gb/s PMD names the individual letters don't have strict meaning.

The two adopted PMDs for P802.3bs have names that follow previous names:

400GBASE-SR16

400GBASE-LR8

Non comprehensive PHY name decoder



Remaining PMDs

The P802.3bs project has two remaining objectives that do not have adopted baselines:

- Provide physical layer specifications which support link distances of:
 - At least 500 m over SMF
 - At least 2 km over SMF

For 500m, Motion #12 from Pittsburgh was:

- Move to adopt 4x100G PAM4 PSM4 as the modulation format for the 500m SMF (single mode fiber) PMD objective

See next slide

For 2 km, there are three proposals:

- 8x50G NRZ this would fit with 400GBASE-FR8
- 8x50G PAM4 this would fit with 400GBASE-FR8
- 4x100G PAM4 this would fit with 400GBASE-FR4

500m PMD name

For the 500 m 4x100G PAM4 PSM4 PMD, there is no precedent for a letter to designate 500 m (although 10BASE5 is 500m).

Of the letters not already used in this position, I, O and Z should be avoided as they are easily mistaken for numbers.

Also, R, W and X should be avoided as they are all used in the next character position and terms such as 100GBASE-R are often used.

This leaves: A, D, G, H, J, M, N, Q, U, V, Y

Of these, three candidates:

D (for Roman numeral D (500) or Data centre)

M (for medium reach)

V (for Roman numeral V (5) or VSR as per 600 m applications in G.693)

Seem like good possibilities. In a straw poll of the P802.3bm SMF Ad Hoc, D and M were more popular than V.

Proposal: Adopt the name for the 500 m PMD as “400GBASE-DR4”

Thanks!