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Media Notation in 802.3ba

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Physical Layer Media Notation

- As noted in my comment, there are discrepancies about what the media notation stands for
 - Is SR for Short Reach (Clause 1.4), Short Wavelength optics (Clause 1.2.3), or nothing as implied in 80.1.4?
 - They all are for the same thing and should be standardized
- The media notation should be explained so people know how to read notation like 40GBASE-SR4
 - While it's obvious to veterans how this is used, newbies could use some help understanding the nomenclature
- Fibre Channel has used a system for a long time that is similar to Ethernet's and could be adopted
- I recommend to using a similar chart in 802.3



Fibre Channel Example from FC-PI-5

100-SM-LC-L

SPEED

1 200 -- 1 200 MB/s
800 -- 800 MB/s
400 -- 400 MB/s
200 -- 200 MB/s
100 -- 100 MB/s

TRANSMISSION MEDIA

SM -- single-mode optics connecting to a gamma point (OS1, OS2)
M5 -- multimode 50 μm optics connecting to a gamma point (OM2)
M5E -- multimode 50 μm optics connecting to a gamma point (OM3)
M6 -- multimode 62.5 μm optics connecting to a gamma points (OM1)
SE -- unbalanced copper connecting to any interoperability point
DF -- balanced copper connecting to any interoperability point

INTEROPERABILITY POINT TYPE (formerly transceiver)

LC -- gamma point for long wave LASER cost reduced (1310 nm) with limiting optical receiver
SN -- gamma point short wave LASER (850 nm) with limiting optical receiver
EL -- any electrical point (includes SN PMD delta points) that assumes a non-equalizing reference receiver (with or without a compliance interconnect)
EA -- any electrical point that assumes equalizing receivers
LL -- gamma point long wave LASER (1310 nm / 1550 nm) assuming a limiting optical receiver
SA -- gamma point short wave LASER (850 nm) assuming a linear optical receiver
LA -- gamma point long wave LASER (1310 nm / 1550 nm) assuming a linear optical receiver

DISTANCE

V -- very long distance (up to 50 km)
L -- long distance (up to 10 km)
M -- medium distance (up to 4 km)
I -- intermediate distance (up to 2 km)
S -- short distance (up to 70 m)



Ethernet Example

100GBASE-CR10

Speed

40G – 40 Gbps

100G – 100 Gbps

Modulation Type

CR – Copper with BASE-R encoding

KR – backplane with BASE-R encoding

SR – Shortwave with BASE-R encoding

LR – Longwave with BASE-R encoding

ER – eXtended with BASE-R encoding

Lanes

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THANK YOU