

PHY Names for 802.3db

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CommScope

IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force
TF Interim Teleconference, March 4, 2021

802.3db objectives will lead to 6 PHYs

- Define a physical layer specification that supports 100 Gb/s operation over 1 pair of MMF with lengths up to at least 50 m
- Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 50 m
- Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 50 m
- Define a physical layer specification that supports 100 Gb/s operation over 1 pair of MMF with lengths up to at least 100 m
- Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 100 m
- Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 100 m

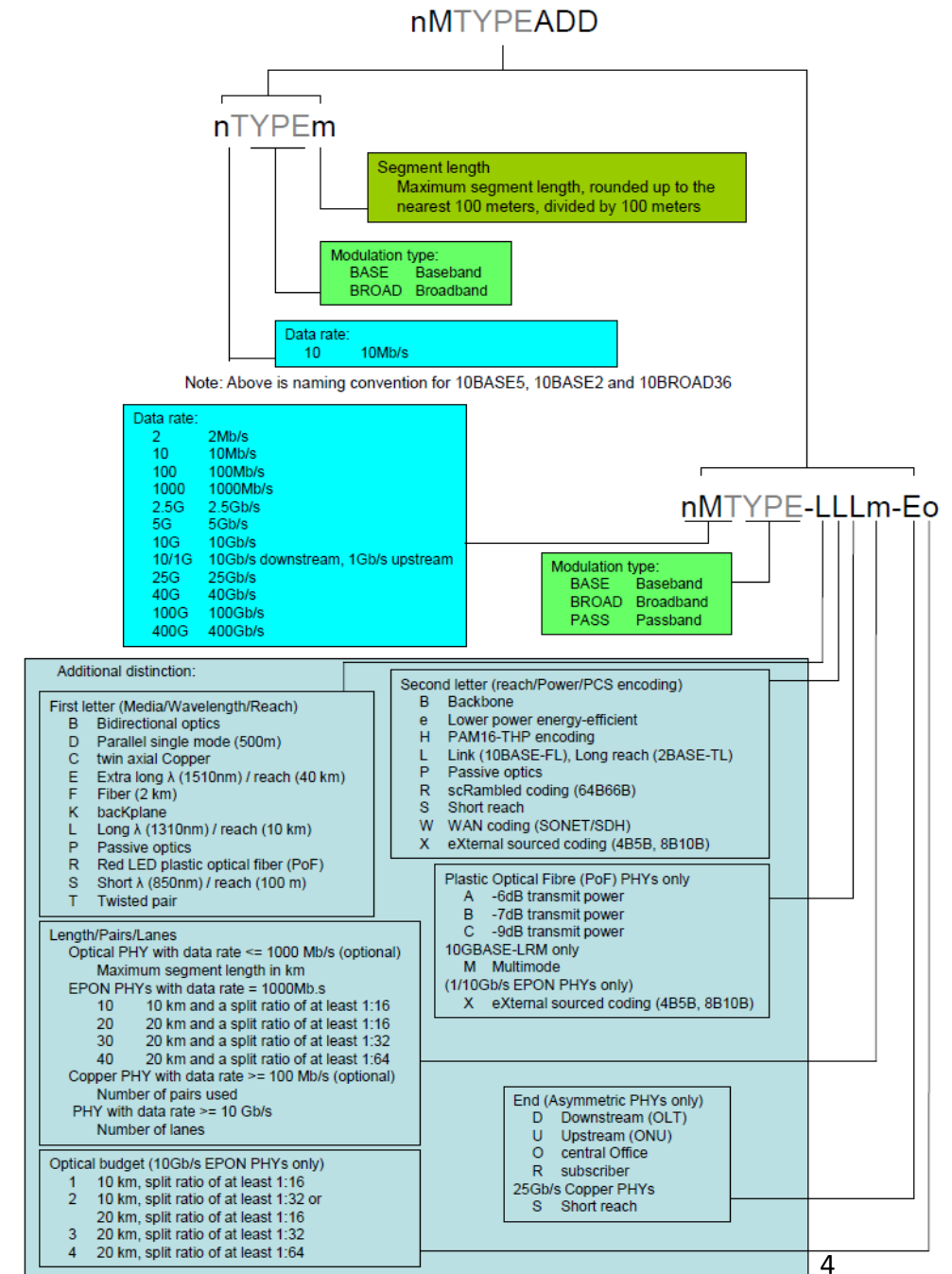
- **Naming for 802.3db PHYs should be considered to start writing the draft!**

PHYs with 100 m reach should be consistent with previous multimode “SR” names

- 100GBASE-SR
- 200GBASE-SR2
- 400GBASE-SR4

Past PHY naming by David Law

- PHY names 1115
- Illustrates architecture of PHY names
- Evolve where required
- Avoid conflicting definition
- Not have same letter in the same position meaning something different
- Provide limited description of naming in standard



For the 50 m PHYs we need to pick a new letter

Available Letters for 50 m

- A
- G
- H
- I
- J
- M
- N
- O
- Q
- U
- **V**
- W
- X
- Y

First letter (Media/Wavelength/Reach)

- B Bidirectional optics
- D Parallel single mode (500m)
- C twin axial Copper
- E Extra long λ (1510nm) / reach (40 km)
- F Fiber (2 km)
- K backplane
- L Long λ (1310nm) / reach (10 km)
- P Passive optics
- R Red LED plastic optical fiber (PoF)
- S Short λ (850nm) / reach (100 m)
- T Twisted pair

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V can stand for “Very short reach” or “serVer connectivity”

- 100GBASE-VR
- 200GBASE-VR2
- 400GBASE-VR4

Several names were suggested on the reflector

- Examples of 4 pair PHYs names
 - 400GBASE-VR4
 - 400GBASE-VSR4
 - 400GBASE-SR4-S
 - 400GBASE-SR4-50
- Concerns raised on the reflector
 - VSR already in use in OIF and ITU
 - -50 or -100 only illustrates OM4 reach
 - 3-character code accepted better by the market

Straw Poll #1

- I support adopting these names for 50 m PHYs defined in 802.3db (Chicago Rules)
 1. 100GBASE-VR, 200GBASE-VR2, 400GBASE-VR4
 2. 100GBASE-VSR, 200GBASE-VSR2, 400GBASE-VSR4
 3. 100GBASE-SR-S, 200GBASE-SR2-S, 400GBASE-SR4-S
 4. 100GBASE-SR-50, 200GBASE-SR2-50, 400GBASE-SR4-50

Straw Poll #2

- I support adopting these names for 50 m PHYs defined in 802.3db
(Choose one option only)
 1. 100GBASE-VR, 200GBASE-VR2, 400GBASE-VR4
 2. 100GBASE-VSR, 200GBASE-VSR2, 400GBASE-VSR4
 3. 100GBASE-SR-S, 200GBASE-SR2-S, 400GBASE-SR4-S
 4. 100GBASE-SR-50, 200GBASE-SR2-50, 400GBASE-SR4-50
 5. No opinion/not voting

Motion # (to be changed depending on straw polls and discussion)

Move to adopt “100GBASE-*R, 200GBASE-*R2, 400GBASE-*R4” as nomenclature for the 50 m PHYs and to adopt “100GBASE-SR, 200GBASE-SR2, 400GBASE-SR4” as nomenclature for the 100 m PHYs

Mover:

Second:

Yes: No: Abstain:

Technical ($\geq 75\%$ of 802.3 voters)

Backup

PHY types list



PHY types

Clause	PHY type	Clause	PHY type	Clause	PHY type	Clause	PHY type	Clause	PHY type	Clause	PHY type	Clause	PHY type
12	1BASE5	38	1000BASE-LX	71	10GBASE-KX4	149	10GBASE-T1	141	25/10GBASE-PQX-U3	112	25GBASE-SR	140	100GBASE-LR1
61, 63	2BASE-TL	59	1000BASE-LX10	52	10GBASE-LR	100	10GPASS-XR	141	25/10GBASE-PQX-U2	113	25GBASE-T	88	100GBASE-LR4
8	10BASE5	60	1000BASE-PX10-D	68	10GBASE-LRM	75	10/1GBASE-PRX-D1	141	25/10GBASE-PQX-D3	85	40GBASE-CR4	138	100GBASE-SR2
9.9	FOIRL	60	1000BASE-PX10-U	52	10GBASE-LW	75	10/1GBASE-PRX-U1	141	25/10GBASE-PQX-D2	87	40GBASE-ER4	86	100GBASE-SR4
10	10BASE2	60	1000BASE-PX20-D	53	10GBASE-LX4	75	10/1GBASE-PRX-D2	141	25/10GBASE-PQG-D3	89	40GBASE-FR	86	100GBASE-SR10
11	10BROAD36	60	1000BASE-PX20-U	158	10GBASE-BR10-D	75	10/1GBASE-PRX-U2	141	25/10GBASE-PQG-D2	84	40GBASE-KR4	154	100GBASE-ZR
14	10BASE-T	60	1000BASE-PX30-D	158	10GBASE-BR10-U	75	10/1GBASE-PRX-D3	141	25/10GBASE-PQG-U3	87	40GBASE-LR4	136	200GBASE-CR4
14	10BASE-Te	60	1000BASE-PX30-U	158	10GBASE-BR20-D	75	10/1GBASE-PRX-U3	141	25/10GBASE-PQG-U2	86	40GBASE-SR4	121	200GBASE-DR4
146	10BASE-T1L	60	1000BASE-PX40-D	158	10GBASE-BR20-U	75	10/1GBASE-PRX-D4	141	50/25GBASE-PQX-U3	113	40GBASE-T	122	200GBASE-ER4
147	10BASE-T1S	60	1000BASE-PX40-U	158	10GBASE-BR40-D	75	10/1GBASE-PRX-U4	141	50/25GBASE-PQX-U2	136	50GBASE-CR	122	200GBASE-FR4
16	10BASE-FP	115	1000BASE-RHA	158	10GBASE-BR40-U	75	10GBASE-PR-D1	141	50/25GBASE-PQG-D3	139	50GBASE-ER	137	200GBASE-KR4
17	10BASE-FB	115	1000BASE-RHB	159	25GBASE-BR10-D	75	10GBASE-PR-U1	141	50/25GBASE-PQG-D2	139	50GBASE-FR	122	200GBASE-LR4
18	10BASE-FL	115	1000BASE-RHC	159	25GBASE-BR10-U	75	10GBASE-PR-D2	141	50/10GBASE-PQX-U3	137	50GBASE-KR	138	200GBASE-SR4
61,62	10PASS-TS	38	1000BASE-SX	159	25GBASE-BR20-D	75	10GBASE-PR-U2	141	50/10GBASE-PQX-U2	139	50GBASE-LR	122	400GBASE-DR4
58	100BASE-BX10-D	40	1000BASE-T	159	25GBASE-BR20-U	75	10GBASE-PR-D3	141	50/10GBASE-PQG-U3	138	50GBASE-SR	122	400GBASE-ER8
58	100BASE-BX10-U	98	1000BASE-T1	159	25GBASE-BR40-D	75	10GBASE-PR-U3	141	50/10GBASE-PQG-U2	162	100GBASE-CR1	151	400GBASE-LR4-6
26	100BASE-FX	126	2.5GBASE-T	159	25GBASE-BR40-U	75	10GBASE-PR-D4	141	50/10GBASE-PQX-D3	136	100GBASE-CR2	123	400GBASE-FR8
58	100BASE-LX10	149	2.5GBASE-T1	160	50GBASE-BR10-D	75	10GBASE-PR-U4	141	50/10GBASE-PQX-D2	92	100GBASE-CR4	151	400GBASE-FR4
96	100BASE-T1	128	2.5GBASE-KX	160	50GBASE-BR10-U	141	25GBASE-PQX-U3	141	50/10GBASE-PQG-D3	85	100GBASE-CR10	123	400GBASE-LR8
32	100BASE-T2	130	5GBASE-KR	160	50GBASE-BR20-D	141	25GBASE-PQX-U2	141	50/10GBASE-PQG-D2	140	100GBASE-DR	150	400GBASE-SR4.2
23	100BASE-T4	126	5GBASE-T	160	50GBASE-BR20-U	141	25GBASE-PQX-D3	110	25GBASE-CR	88	100GBASE-ER4	150	400GBASE-SR8
25	100BASE-TX	149	5GBASE-T1	160	50GBASE-BR40-D	141	25GBASE-PQX-D2	110	25GBASE-CR-S	140	100GBASE-FR1	121	400GBASE-SR16
59	1000BASE-BX10-D	54	10GBASE-CX4	160	50GBASE-BR40-U	141	25GBASE-PQG-D3	114	25GBASE-ER	163	100GBASE-KR1	156	400GBASE-ZR
59	1000BASE-BX10-U	52	10GBASE-ER	52	10GBASE-SR	141	25GBASE-PQG-D2	111	25GBASE-KR	137	100GBASE-KR2		
39	1000BASE-CX	52	10GBASE-EW	52	10GBASE-SW	141	25GBASE-PQG-U3	111	25GBASE-KR-S	93	100GBASE-KR4		
70	1000BASE-KX	72	10GBASE-KR	55	10GBASE-T	141	25GBASE-PQG-U2	114	25GBASE-LR	94	100GBASE-KP4		