67. System considerations for Ethernet subscriber access networks

67.1 Overview

Insert four new entries after Media type "EPoC coaxial segment (10GPASS-XR)" including the two new footnotes. Note: the entire table is shown in order to preserve Framemaker footnote numbering and the reuse of the existing "b" and "c" footnotes in the inserted entries as well as indicate the numbering of the two new footnotes:

Table 67–1—Characteristics of the various EFM network media segments

Media type	Rate (Mb/s)	Number of PHYs per segment	Nominal reach (km)
Optical 100 Mb/s fiber segment (100BASE-LX10, 100BASE-BX10)	100	2	10
Optical 1000 Mb/s fiber segment (1000BASE-LX10, 1000BASE-BX10)	1000	2	10
Optical 1000 Mb/s P2MP segment (1000BASE-PX10)	1000[a]	17[b,c]	10
Optical 1000 Mb/s P2MP segment (1000BASE-PX20)		17[b,c]	20
Optical 1000 Mb/s P2MP segment (1000BASE-PX30)		33[b,c]	20
Optical 1000 Mb/s P2MP segment (1000BASE-PX40)		65[b,c]	20
Optical 10/1 Gb/s P2MP segment (10/1GBASE-PRX10)	10 000 / 1000[d]	17[b,c]	10
Optical 10/1 Gb/s P2MP segment (10/1GBASE-PRX20)		17[b,c]	20
Optical 10/1 Gb/s P2MP segment (10/1GBASE-PRX30)		33[b,c]	20
Optical 10/1 Gb/s P2MP segment (10/1GBASE-PRX40)		65[b,c]	20
Optical 10 Gb/s P2MP segment (10GBASE-PR10)	10 000[e]	17[b,c]	10
Optical 10 Gb/s P2MP segment (10GBASE-PR20)		17[b,c]	20
Optical 10 Gb/s P2MP segment (10/1GBASE-PR30)		33[b,c]	20
Optical 10 Gb/s P2MP segment (10GBASE-PR40)		65[b,c]	20

Table 67–1—Characteristics of the various EFM network media segments

Media type	Rate (Mb/s)	Number of PHYs per segment	Nominal reach (km)
Copper high-speed segment (10PASS-TS)	10[f]	2	0.75
Copper long reach segment (2BASE-TL)	2[c]	2	2.7
EPoC coaxial segment (10GPASS-XR)	Up to 10 Gb/s downstream	variable[g]	2.9[h]
	Up to 1.6 Gb/s upstream	variable[g]	2.9[h]
Optical Nx25-EPON P2MP segment (50/50-PQ20*, 50/25-PQ20*, 25/25PQ20*) [1]	50 000 / 50 000 [j] 50 000 / 25 000 25 000 / 25 000	17[b,c]	20
		33[b,c]	10
Optical Nx25-EPON P2MP segment (50/10-PQ20*, 25/10PQ20*)[1]	50 000 / 10 000 [j] 25 000 / 10 000	17[b,c]	20
		33[b,c]	10
Optical Nx25-EPON P2MP segment (50/50-PQ30*, 50/25-PQ30*, 25/25PQ30*) [1]	50 000 / 50 000 [j] 50 000 / 25 000 25 000 / 25 000	33[b,c]	20
Optical Nx25-EPON P2MP segment (50/10-PQ30*, 25/10PQ30*)[1]	50 000 / 10 000 [j] 25 000 / 10 000	33[b,c]	20

[a]1000 Mb/s in downstream direction, 1000 Mb/s in upstream direction.
[b]P2MP segments may be implemented with a trade off between link span and split ratio listed. Refer to 67.2.1.
[c]The number of PHYs in the P2MP segment includes the OLT PHY.
[d]10 000 Mb/s in downstream direction, 1000 Mb/s in upstream direction (asymmetric data rate in 10/1G-EPON).
[e]10 000 Mb/s in downstream direction, 10 000 Mb/s in upstream direction (symmetric data rate in 10/10G-EPON).
[f]Nominal rate stated at the nominal reach in this table. Rate and reach can vary depending on the plant. For 2BASE-TL please refer to Annex 63B for more information. For 10PASS-TS, please refer to Annex 62A for more information.
[g] Based on the cable operator's CCDN configuration, the number of PHYs will be the CLT PHY plus each CNU PHY.
[h] Maximal differential distance between CNUs. Reach may vary depending on the CCDN.
[i]For brevity, the two Nx25G-EPON PMD coexistence class designators "X" and "G" have been abbreviated in this table with an asterisk ("*") as they are equivalent with respect to Rate, Number of PHYs per segment, and Nominal Reach (see 141.1.3 and 141.2.5).
[j]For Nx25G-EPON possible downstream rates are either 25 Gb/s or 50 Gb/s and possible upstream rates are 10 Gb/s, 25Gb/s, or 50 Gb/s. The format shown in the table is the downstream rate followed by a forward slash ("/") followed by the upstream rate (see 141.2.2).