56. Introduction to Ethernet for subscriber access networks

56.1 Overview

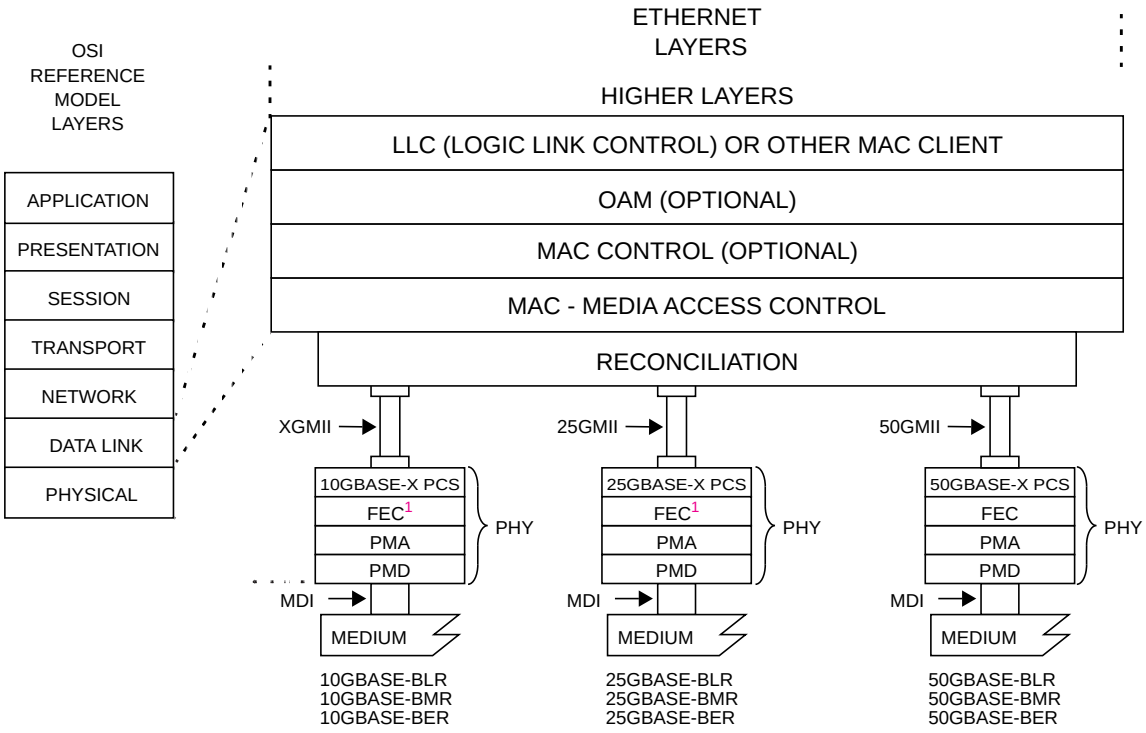

Figure 56–1a—Architectural positioning of EFM: higher rate P2P topologies

56.1.1 Summary of P2P sublayers

56.1.2 Summary of P2MP sublayers

56.1.2.1 Reconciliation Sublayer (RS) and media independent interfaces

Change the first paragraph 56.1.2.2 (as modified by IEEE Std 802.3ca-YYYY) as shown below:

The Clause 22 RS and MII, Clause 35 RS and GMII, ~~and~~ Clause 46 RS and XGMII, Clause 106 RS and 25GMII, and Clause 132 RS and 50GMII, are all employed for the same purpose in EFM, that being the interconnection between the MAC sublayer and the PHY sublayers. Extensions to the Clause 35 RS for P2MP topologies are described in Clause 65, the RS for 10G-EPON P2MP topologies is described in Clause 76, the RS for Nx25G-EPON P2MP topologies is described in Clause 143, and the RS for EPoC P2MP topologies is described in Clause 101.

56.1.3 Physical Layer signaling systems

Insert rows in Table 56–1 (as modified by IEEE Std 802.3ca-YYYY) as shown below (additional unchanged rows not shown):

Table 56–1—Summary of EFM Physical Layer signaling systems

Name	Location	Rate[a]	Nominal reach (km)	Medium	Clause
...					
1000BASE-BX10-D	OLT	1000 Mb/s	10	One single-mode fiber	59
1000BASE-BX10-U	ONU				
10GBASE-BLR-D	OLT	10 Gb/s	10	One single-mode fiber	158
10GBASE-BLR-D	ONU				
10GBASE-BMR-D	OLT		20		
10GBASE-BMR-D	ONU				
10GBASE-BER-D	OLT		40		
10GBASE-BER-D	ONU				
25GBASE-BLR-D	OLT	25 Gb/s	10	One single-mode fiber	158
25GBASE-BLR-D	ONU				
25GBASE-BMR-D	OLT		20		
25GBASE-BMR-D	ONU				
25GBASE-BER-D	OLT		40		
25GBASE-BER-D	ONU				
50GBASE-BLR-D	OLT	50 Gb/s	10	One single-mode fiber	158
50GBASE-BLR-D	ONU				
50GBASE-BMR-D	OLT		20		
50GBASE-BMR-D	ONU				
50GBASE-BER-D	OLT		40		
50GBASE-BER-D	ONU				
...					

[a]For 10/1G-EPON Physical Layer signaling systems transmit rate is denoted with the abbreviation “(tx)” to the location whereas the receive rate is denoted with the abbreviation “(rx)”.

Insert rows and columns in Table 56–2 as shown below; reformatting header rows to accommodate added columns:

Table 56–2—Nomenclature and clause correlation for P2P systems

Nomenclature	Clause																			
	57	58		59		61	62	63	66		158	51	49	159	109	107	160	135	133
	OAM	100BASE-LX10 PMD	100BASE-BX10 PMD	1000BASE-LX10 PMD	1000BASE-BX10 PMD	Cu PCS	10PASS-TS PMA & PMD	2BASE-TL PMA & PMD	100BASE-X PCS, PMA	1000BASE-X PCS, PMA	10GBASE-BxR PMD	10GBASE-BxR PMA	10GBASE-BxR PCS	25GBASE-BxR PMD	25GBASE-BxR PMA	25GBASE-BxR PCS	50GBASE-BxR PMD	50GBASE-BxR PMA	50GBASE-BxR PCS
2BASE-TL	O[a]					M		M											
10PASS-TS	O					M	M												
100BASE-LX10	O	M							M										
100BASE-BX10	O		M						M										
1000BASE-LX10	O			M						M									
1000BASE-BX10	O				M					M									
10GBASE-BLR	O										M	M	M						
10GBASE-BMR	O										M	M	M						
10GBASE-BER	O										M	M	M						
25GBASE-BLR	O													M	M	M			
25GBASE-BMR	O													M	M	M			
25GBASE-BER	O													M	M	M			
50GBASE-BLR	O																M	M	M
50GBASE-BMR	O																M	M	M
50GBASE-BER	O																M	M	M

[a]O = Optional, M = Mandatory