Annex 83B

(informative)

PMA Sublayer Partitioning Examples

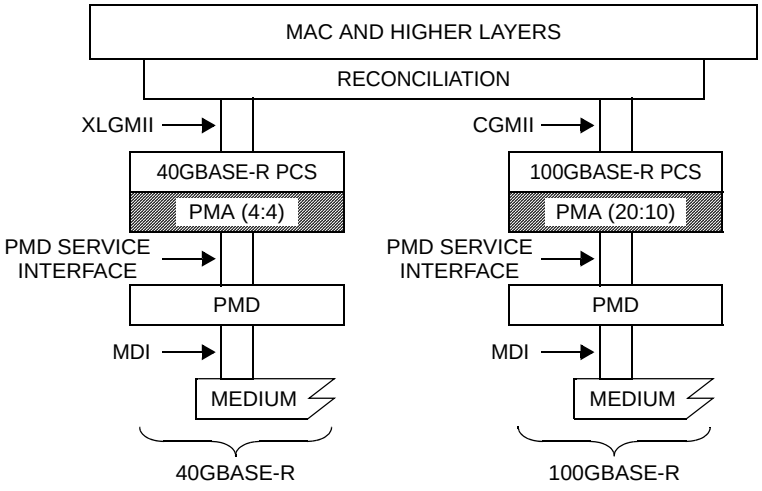
83B.1 Overview

Implementations may be partitioned into between one and four PMA sublayers, as described in 83.1.4. This Annex provides examples of possible implementation partitioning.

83B.2 PMA Partitioning Examples

The following subclauses provide various partitioning examples. The example of FEC implemented in a separate device from either the PCS or the PMD is illustrated in Figure 83–2.

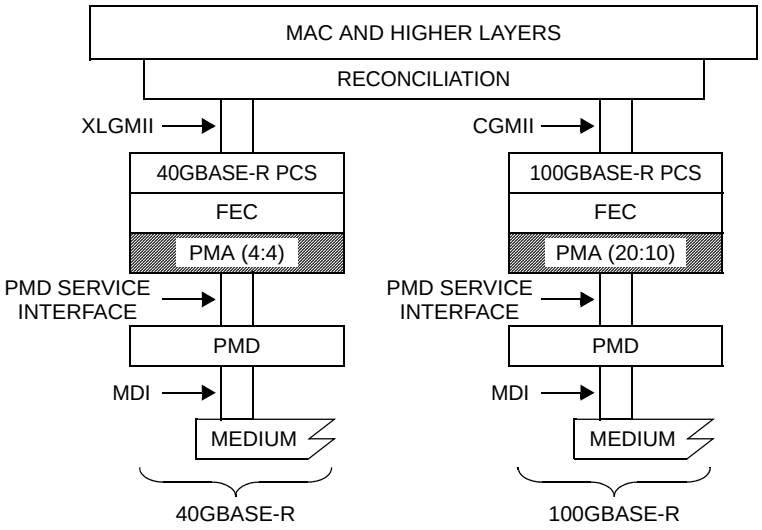
83B.2.1 Single PMA sublayer without FEC



CGMII = 100 Gb/s MEDIA INDEPENDENT INTERFACE
MAC = MEDIA ACCESS CONTROL
MDI = MEDIUM DEPENDENT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT
XLGMII = 40 Gb/s MEDIA INDEPENDENT INTERFACE

Figure 83B–1—Example Single PMA Sublayer without FEC

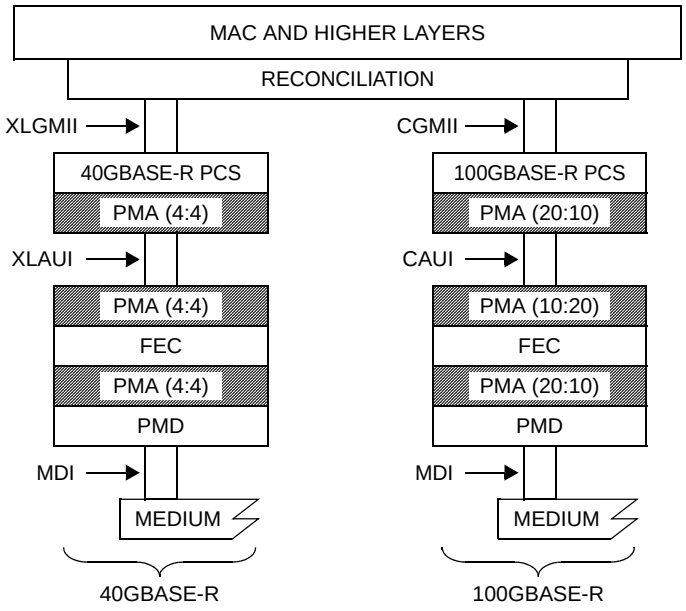
83B.2.2 FEC Implemented with PCS



CGMII = 100 Gb/s MEDIA INDEPENDENT INTERFACE
FEC = FORWARD ERROR CORRECTION
MAC = MEDIA ACCESS CONTROL
MDI = MEDIUM DEPENDENT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT
XLGMII = 40 Gb/s MEDIA INDEPENDENT INTERFACE

Figure 83B–2—Example FEC implemented with PCS

83B.2.3 FEC implemented with PMD



CAUI = 100 Gb/s ATTACHMENT UNIT INTERFACE
CGMII = 100 Gb/s MEDIA INDEPENDENT INTERFACE
FEC = FORWARD ERROR CORRECTION
MAC = MEDIA ACCESS CONTROL
MDI = MEDIUM DEPENDENT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT
XLAUI = 40 Gb/s ATTACHMENT UNIT INTERFACE
XLGMII = 40 Gb/s MEDIA INDEPENDENT INTERFACE

Figure 83B–3—Example 40GBASE-R and 100GBASE-R PMA layering

83B.2.4 Separate SERDES for optical module interface

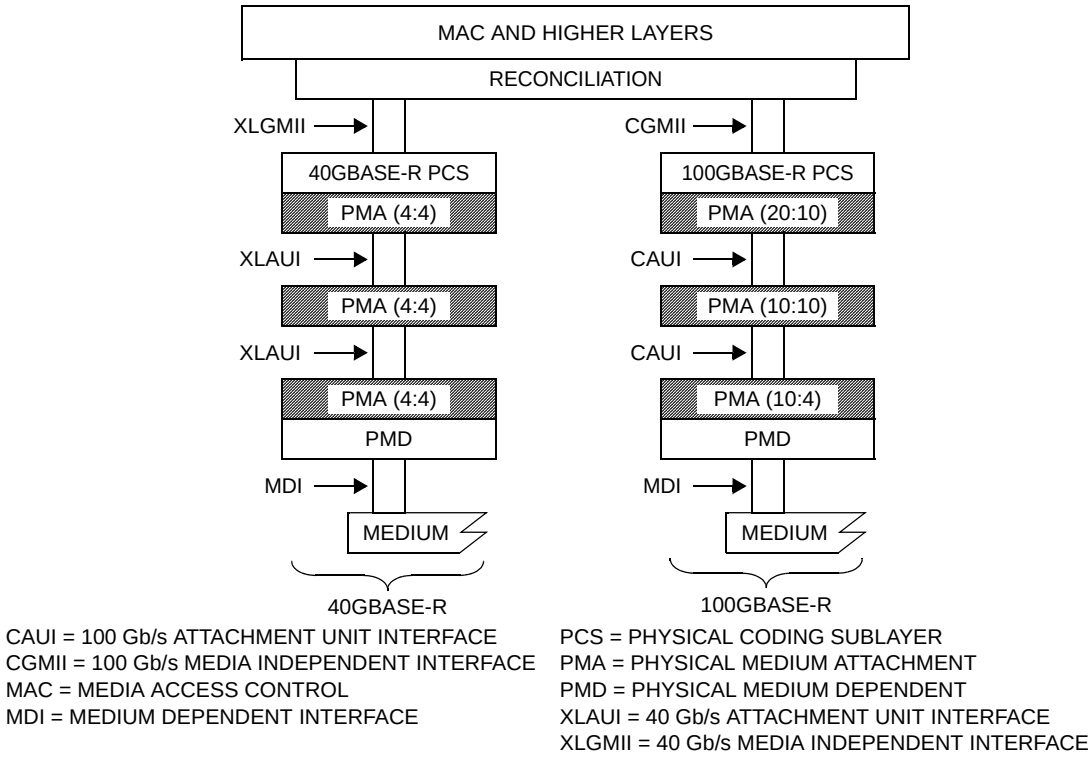


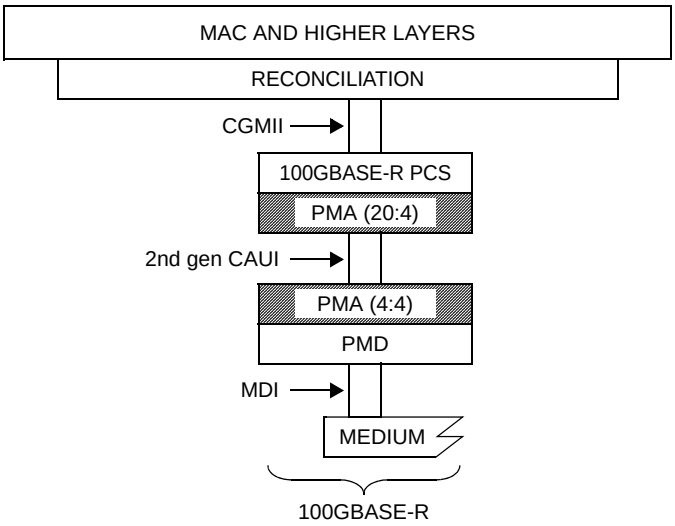
Figure 83B–4—Example 40GBASE-R and 100GBASE-R PMA layering

83B.3 Future Partitioning

[Editor's note (to be removed prior to publication) Do we want to describe future partitioning possibilities as part of the informative Annex? In particluar, examples including 25G signaling for a 2nd generation CAUI]

A future generation CAUI may be based on four lanes of 25G signaling. This introduces additional partitioning possibilities that are supported by the 802.3ba architecture.

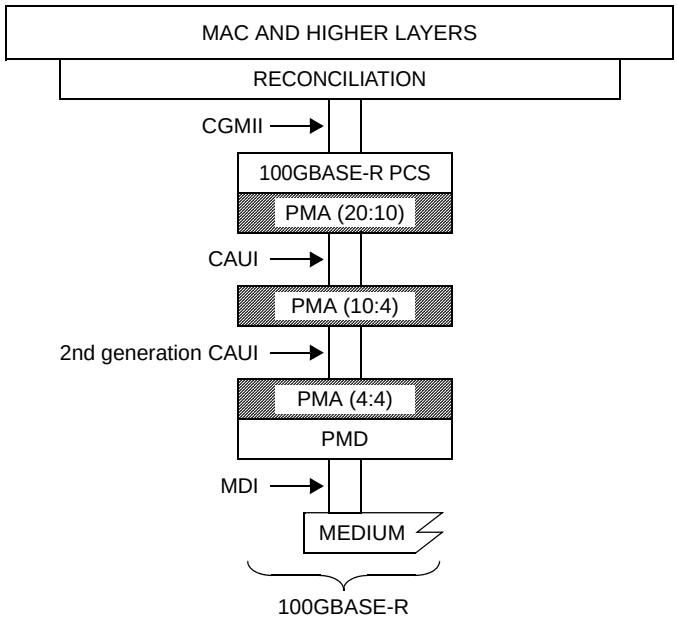
83B.3.1 Simple 2nd Generation CAUI



CAUI = 100 Gb/s ATTACHMENT UNIT INTERFACE
CGMII = 100 Gb/s MEDIA INDEPENDENT INTERFACE
MAC = MEDIA ACCESS CONTROL
MDI = MEDIUM DEPENDENT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT

Figure 83B–5—Simple 2nd generation CAUI

83B.3.2 2nd generation CAUI for optical module interface with separate SERDES



CAUI = 100 Gb/s ATTACHMENT UNIT INTERFACE
CGMII = 100 Gb/s MEDIA INDEPENDENT INTERFACE
MAC = MEDIA ACCESS CONTROL
MDI = MEDIUM DEPENDENT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PMD = PHYSICAL MEDIUM DEPENDENT

Figure 83B–6—2nd generation CAUI optical module interface, separate SERDES