

Proposal For Layer Management

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Goals

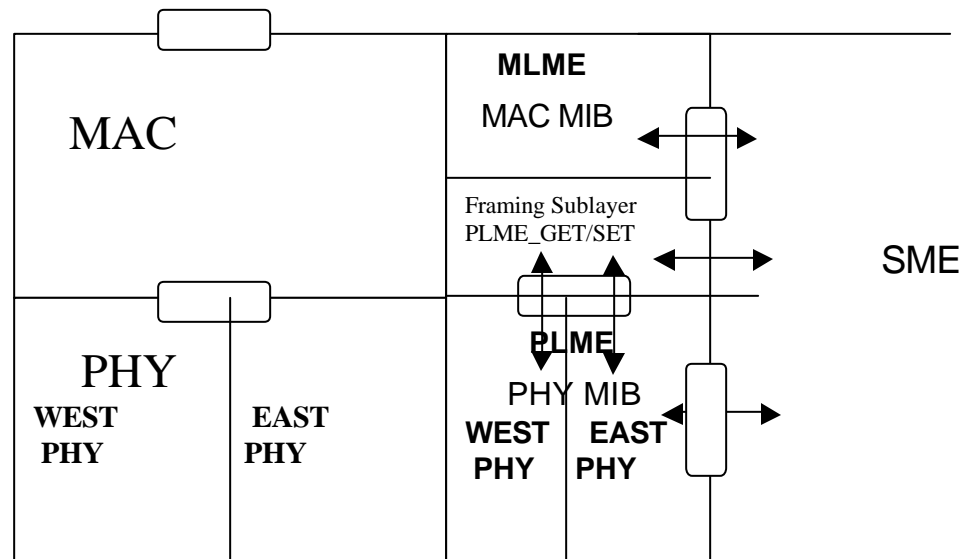
- Define a framework for Layer Management
- Provide for Configuration Management
- Provide for Fault Management
- Provide for Performance Monitoring
- Define the Service Access points between the Layer Management and the 802.17 MAC Layer.
- Propose a Management Information Base (MIB)

Overview

- Both RPR MAC and all applicable PHY layers conceptually include management entities, called MAC sub layer management and PHY layer management entities (MLME and PLME, respectively). These entities provide the layer management service interfaces through which layer management functions may be invoked.
- The management SAPs within this model are the following:
 - — SME-MLME SAP
 - --- SME-PLME SAP
 - — SME –FR (framing sublayer) SAP

Reference Model

- Relations between SME, FS MLME and PLME



MLME SAP Interface

- RPR interface configuration
- Topology discovery monitoring
- Protection switching
- Performance and Accounting Measurements
- Notifications and Fault Management
- Loop back Management

PLME SAP Interface

- The Ethernet PHY
- The SONET PHY
- The Framing Sublayer
- The GFP Adaptation Layer
- The POS Adaptation Layer

RPR SNMP MIB Definition

- Relationship to the Interfaces MIB
 - The Interface MIB requires that any MIB, which is an adjunct of the Interface MIB, clarify specific areas within the Interface MIB. These areas were intentionally left vague in the Interface MIB to avoid over constraining the MIB, thereby precluding management of certain media-types. Each of these areas must be addressed.
- Layering Model
 - Any RPR interface is stacked over two lower-layer interfaces, representing the two spans. The layering relationship between the RPR interface and the lower-layer interfaces is defined by the ifStackTable.

Additional Definitions for the RPR MIB

- The RRP MAC Interface group
- The topology map table
- The PRP MAC to PHY side table
- The RPR MAC Virtual Output Queue table
- The RPR MAC Protection switch thresholds table
- The RPR MAC Counters tables
- The RPR MAC Notifications