



Layer Management Proposal

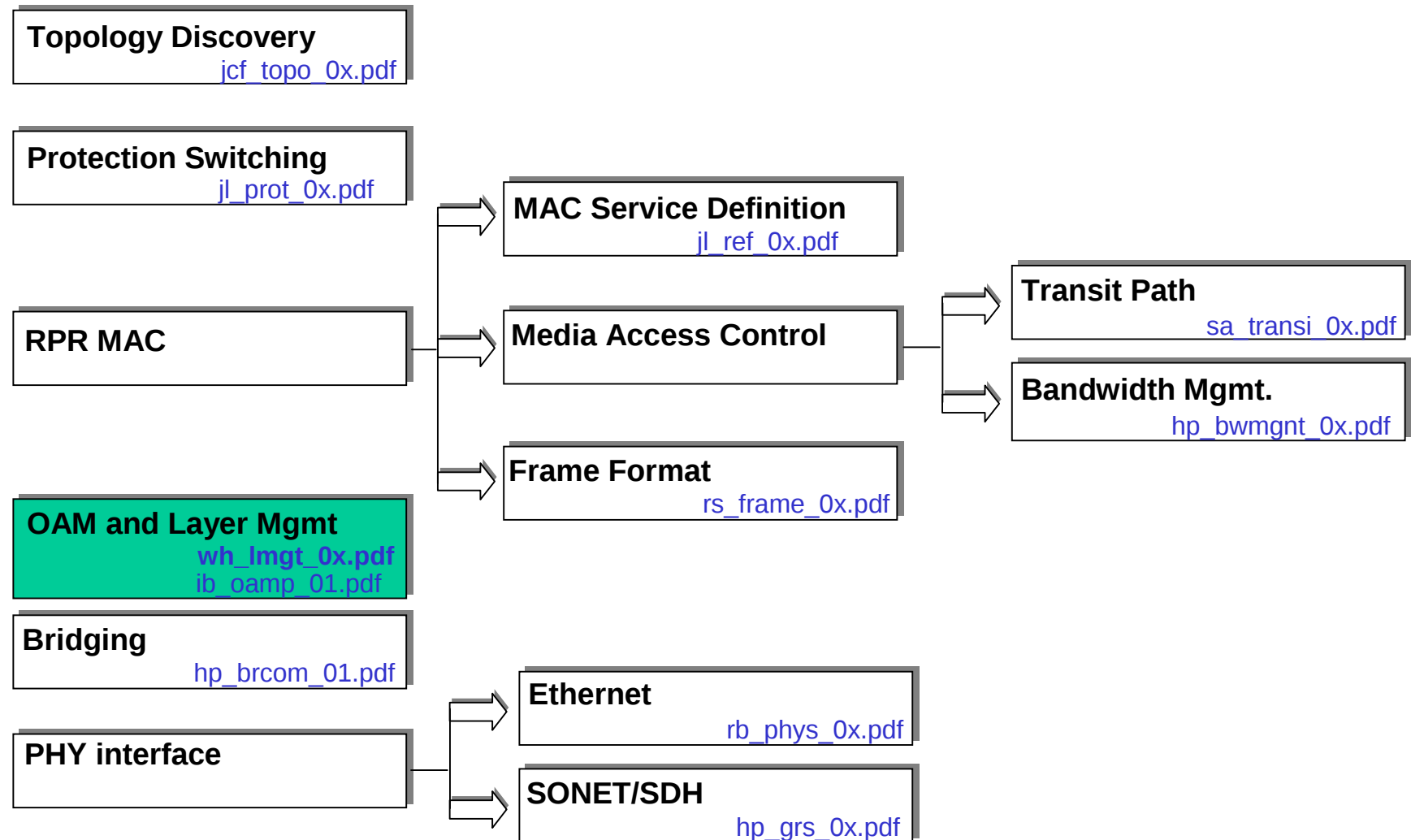
Italo Busi, Alcatel (Presenter)

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Costantinos Bassias, Lantern

Jason Fan, Luminous

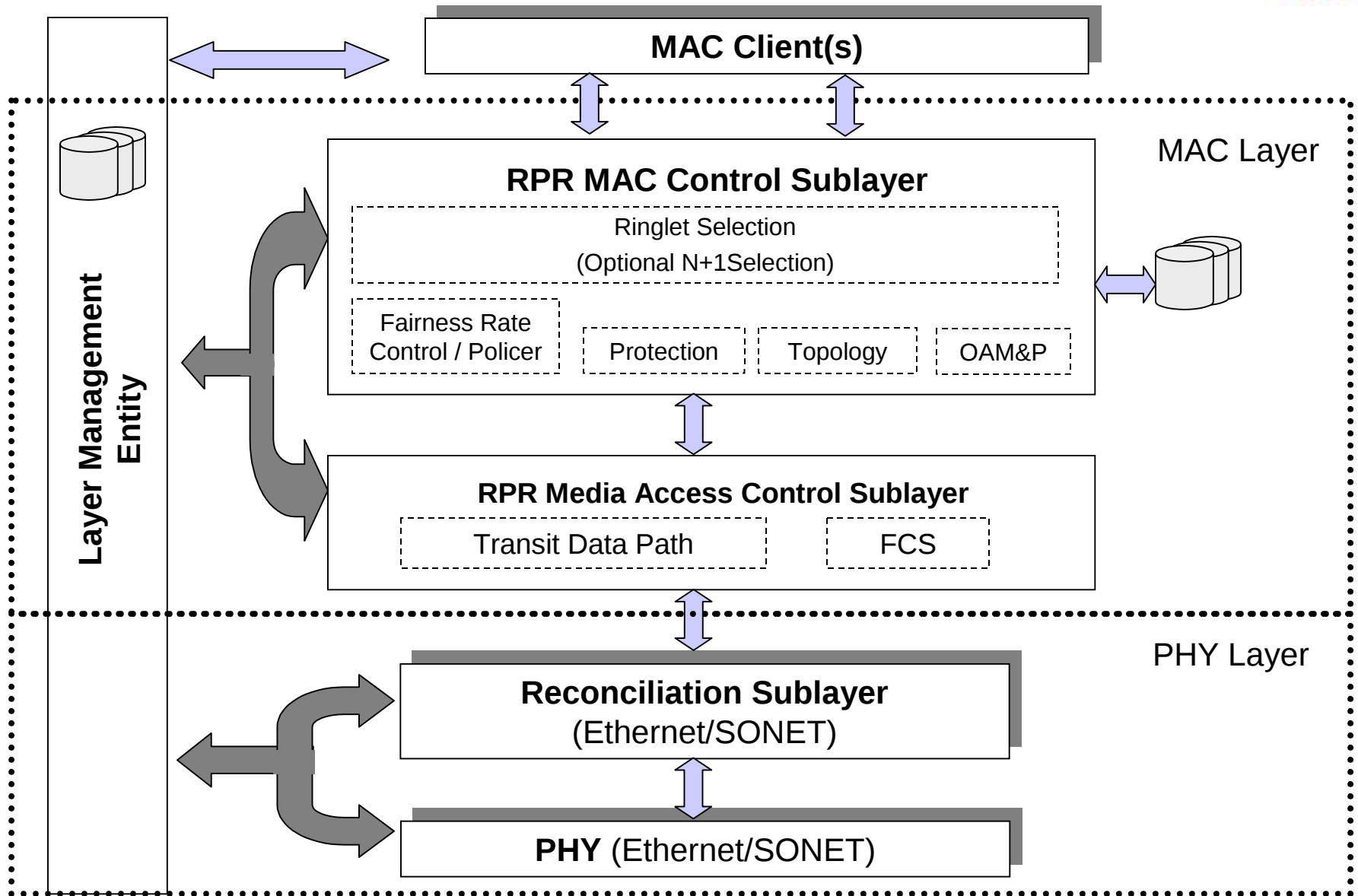
Components of a complete RPR proposal





Outline

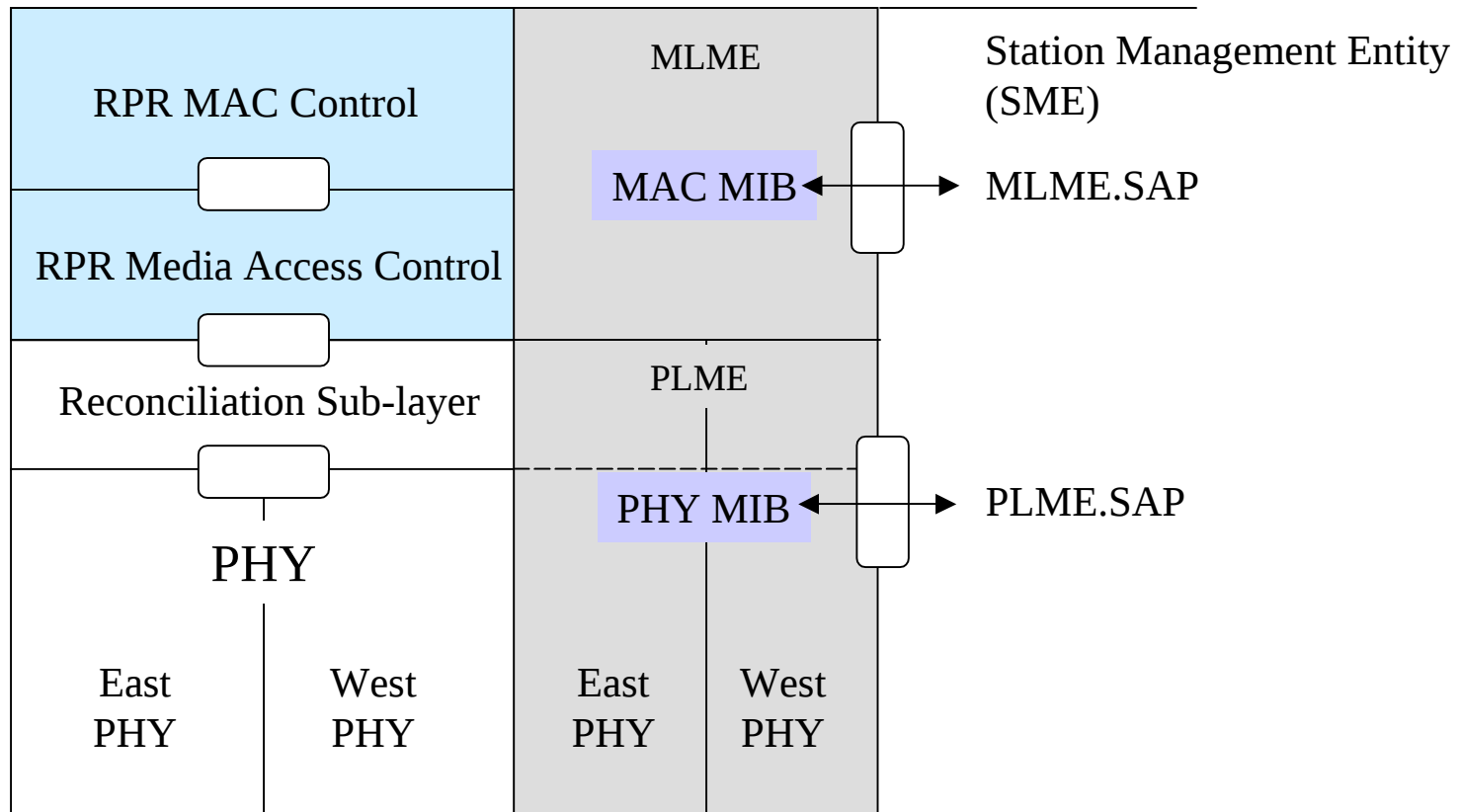
- Introduction
- Layer Management Framework
- RPR MIB Overview
- Summary





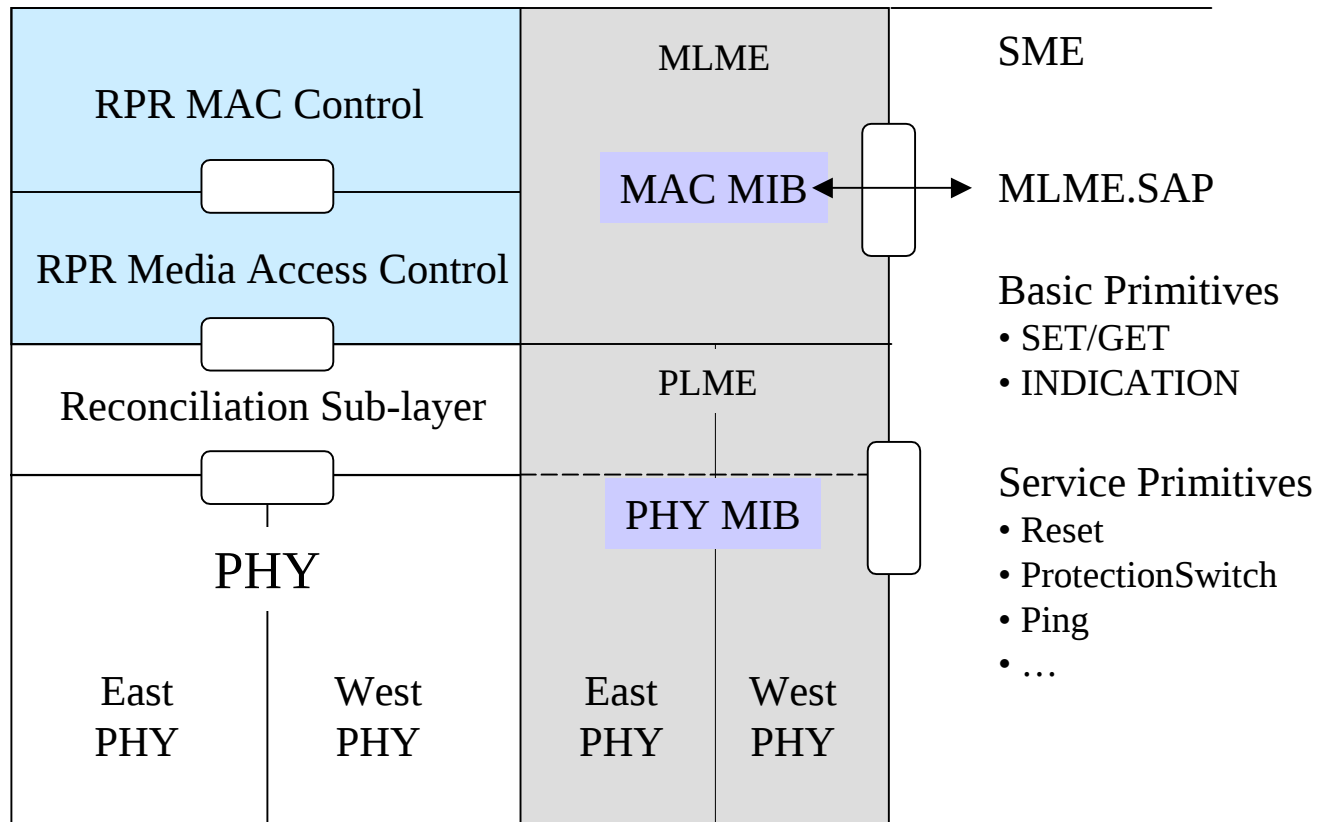
Layer Management Framework

LME Reference Model

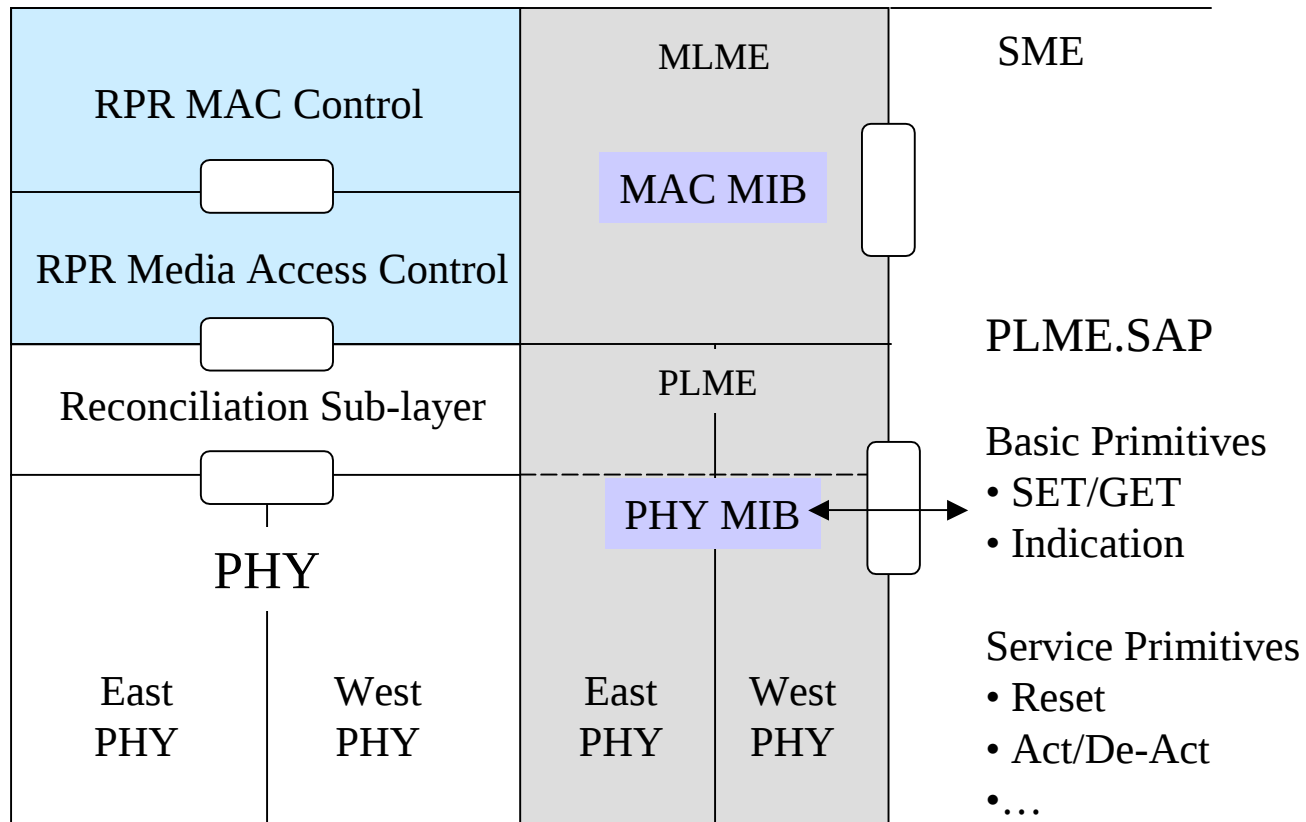




M(AC) LME



P(HY) LME





MIB Overview



Standards MIB References

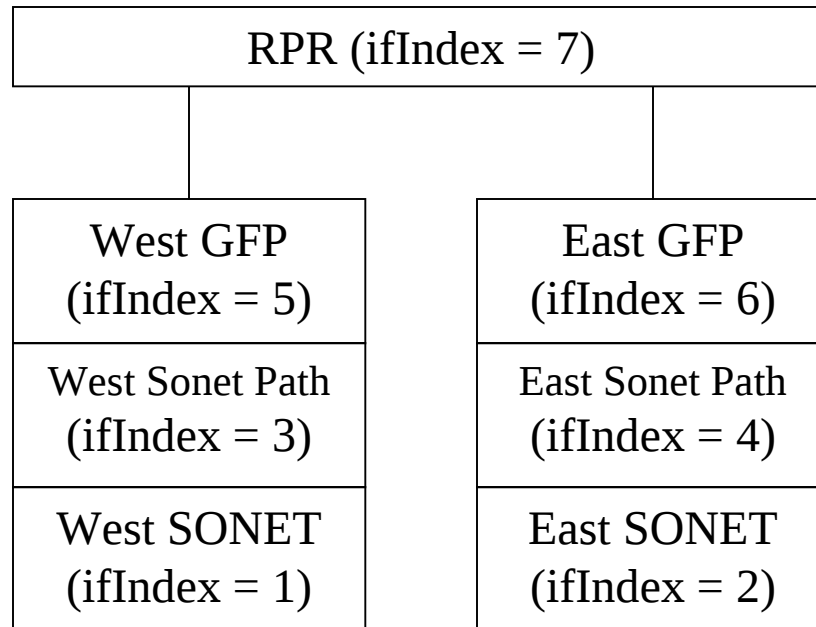
- Generic *interface* managed objects are defined in the IF-MIB RFC 2863
- IEEE 802.3 MAC objects are defined in the EtherLike-MIB RFC 2665
 - Updated in draft *draft-ietf-hubmin-etherif-mib-v3-00*
- IEEE 802.3 PHY objects are defined in the MAU-MIB RFC 2668
 - Updated in drafts *draft-ietf-hubmin-mau-mib-v3-00* and *draft-ietf-hubmib-wis-mib-00*
- SONET/SDH PHY managed objects are defined in RFC 2558.
- GFP managed objects to be defined.
- PoS managed objects are defined in RFC 1471.



RPR Management Dependencies

- 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 IF-MIB. These areas were intentionally left vague in the IF-MIB to avoid over constraining the MIB, thereby precluding management of certain media-types.
- The RPR MIB shall define all the RPR specific objects that cannot be derived from the generic objects in the IF-MIB
- Layering Model
 - Any RPR interface is stacked over two lower-layer interfaces, representing the two spans.
 - The layering relationship is defined in the ifStackTable (per RFC 2863).

RPR over SONET (GFP) Layering

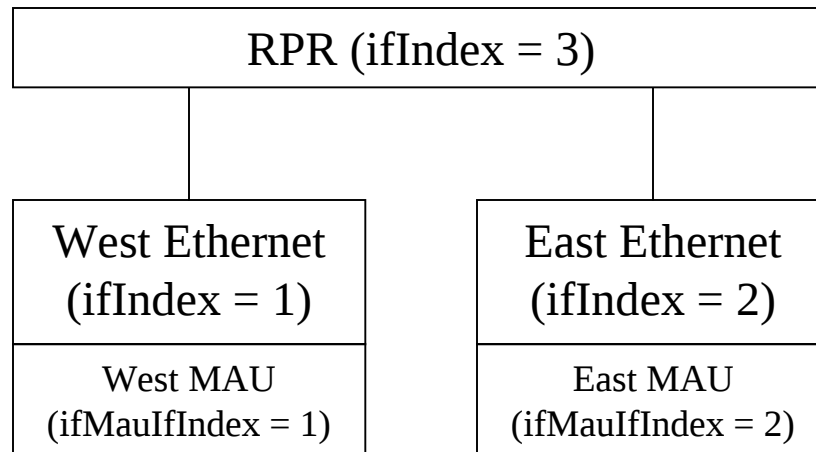


ifTable (IF-MIB)

ifIndex	ifType
1	sonet (39)
2	sonet (39)
3	sonetPath (50)
4	sonetPath (50)
5	gfp (tbd)
6	gfp (tbd)
7	ieee80217 (tbd)



RPR over Ethernet Layering



ifTable (IF-MIB)

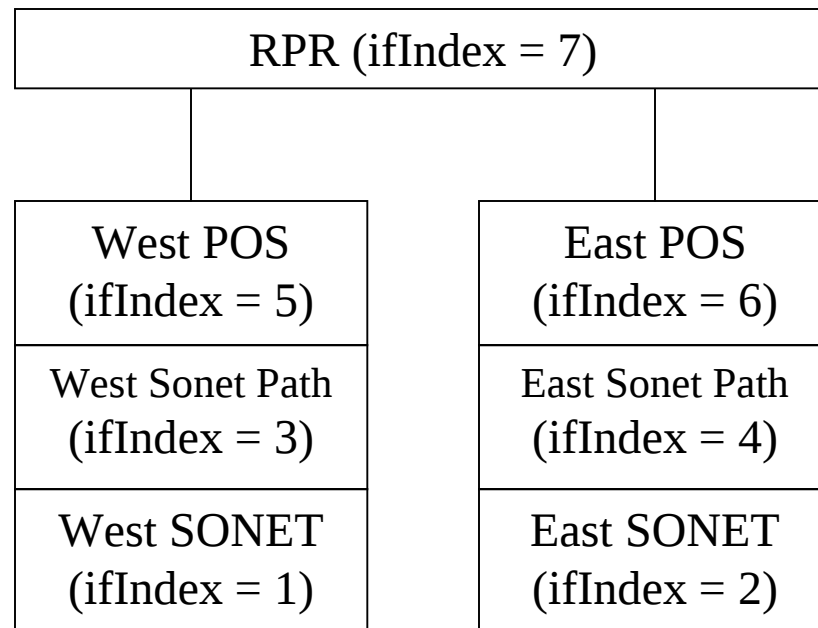
ifIndex	ifType
1	?
2	?
3	ieee80217 (tbd)

Issue:

- Cannot use ifType 'ethernetCsmaCd'
 - No sub-layering. Ethernet-like MIB defined for both Ethernet MAC and PHY

Define a new *ifType* for RPR Ethernet PHY

RPR over SONET (PoS) Layering



ifTable (IF-MIB)

ifIndex	ifType
1	sonet (39)
2	sonet (39)
3	sonetPath (50)
4	sonetPath (50)
5	ppp? (23)
6	ppp? (23)
7	ieee80217 (tbd)

Is a new *ifType* required for RPR POS?



PHY Management

- Reuse as much as possible the existing MIB
- Reuse SONET/SDH MIB specified in RFC 2558
- PoS MIBs can be partially ready
- MAU MIBs can be reused
- *Need to define GFB MIB*
- *Ethernet-like MIB cannot be reused as defined....*

RPR MIB Components

- The RPR Media Specific Group
- The Topology Map table
- The RPR MAC to PHY side table
- The RPR Bw Management and Monitoring table
- The RPR protection switch table
- The RPR MAC Counters table
- The RPR Notifications
- ...



Summary

- Input from everyone is welcome.