

**X.msr-rpr in TD 2132 Rev.2
Presentation to
Q.7/17 Meeting**

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Market Summary

- **Long Haul: Over at this moment**

- **Access: Ethernet**

- **Metro: New opportunity and Open!**
 - Data, Voice and Video converge
 - Way of Multi-Service
 - Standard Required

Requirements (1)

- (1) Circuit emulation, connected to T1/E1 of PBX and Node B, FR, ISDN
- (2) Tributary based protection with 1+1, 1:1, 1:N mode within 50ms
- (3) Automatic Topology Discovery
- (4) Combination of data, voice and video
- (5) Topology: two-fiber ring, Link with ADM, single-fiber ring, coupled to other ring

Requirements (2)

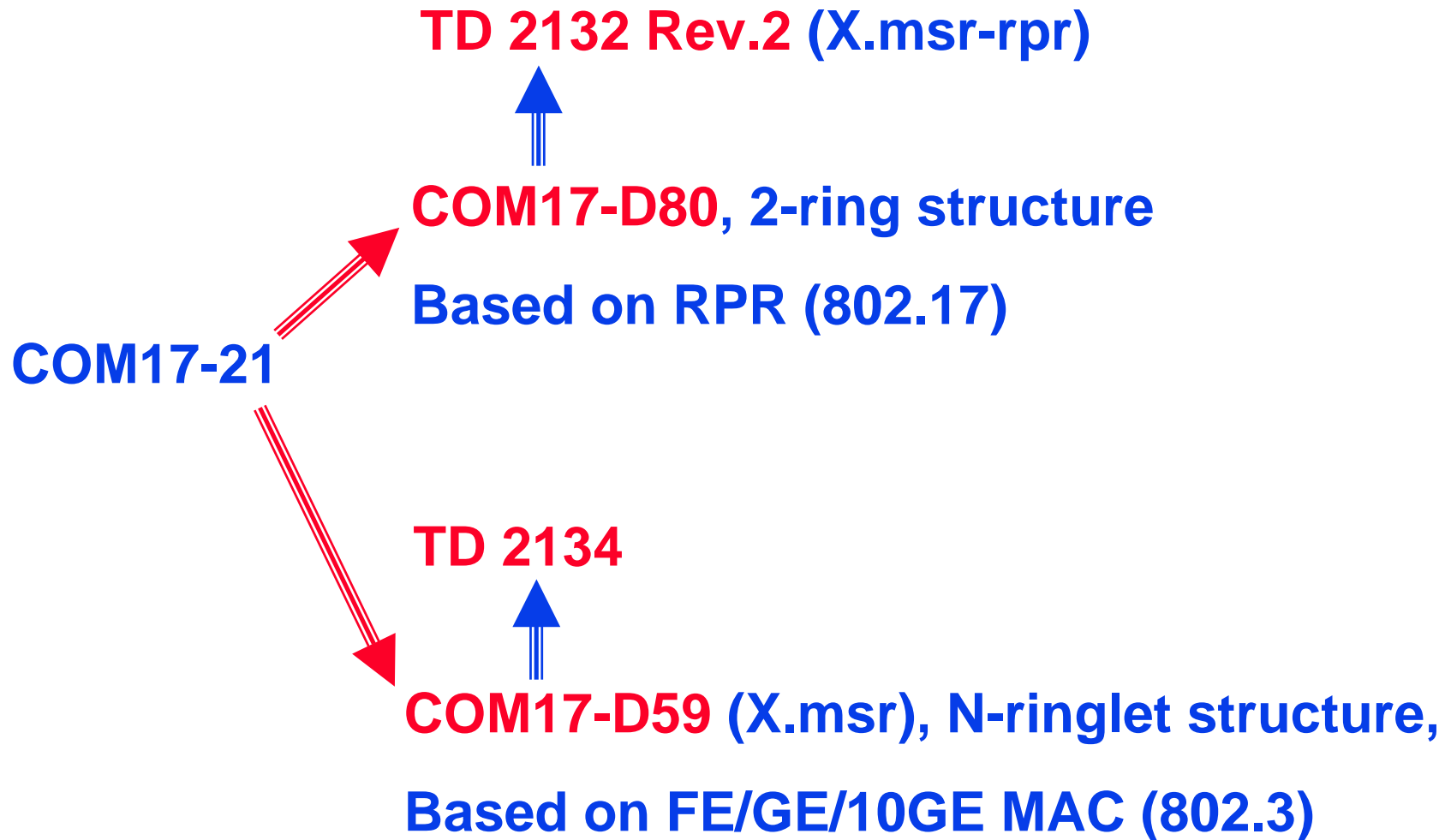
(6)BW limitation of Tributary based

(7)Tributary merging

(8)Line-speed filtering of Tributary based

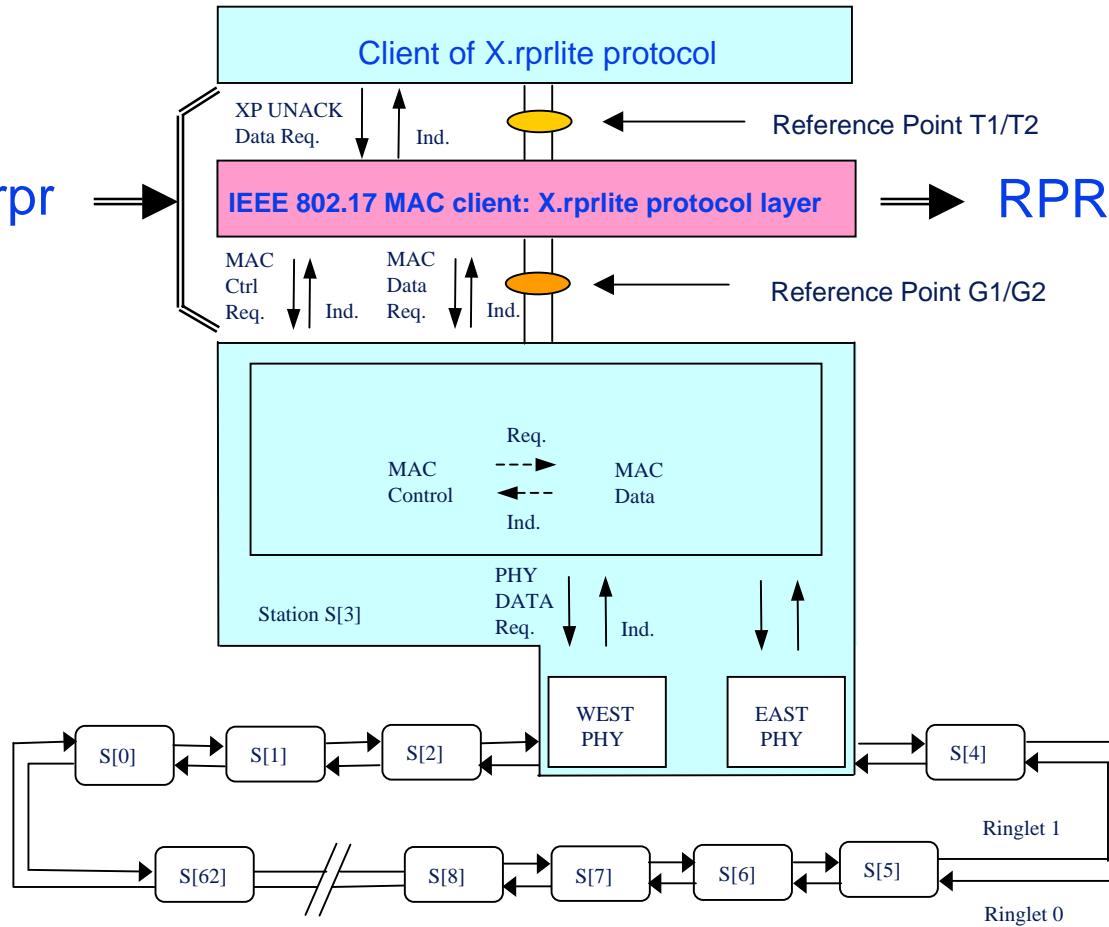
(9)Duplicate of Tributary

(10)Multi-point and multi-location accessing, centralized accounting



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Scope of X.msr-rpr



RPR MAC Client

The Scope of X.msr-rpr based on RPR as RPR MAC Client

X.msr-rpr highlights (1)

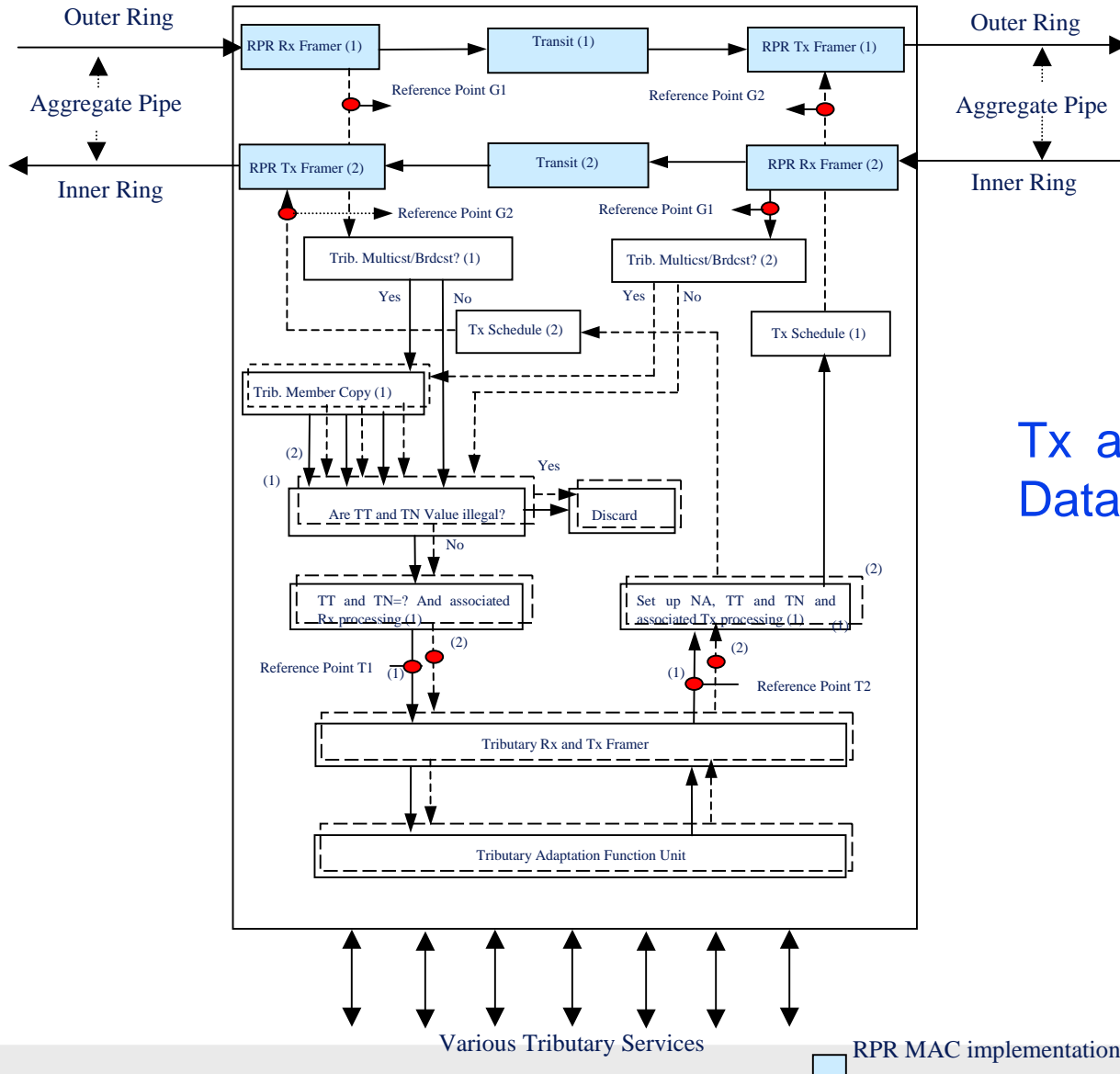
- (1) Way of Pre-plan and Provisioning**
- (2) Fairness A0 provisioned traffic (and subsequently no fairness)**
- (3) Tributary (Service) based 1+1, 1:1 and 1:N protection within 50 ms**
- (4) Tributary (Service) based BW management with symmetry and asymmetry**
- (5) Tributary based multicast**
- (6) Line-speed filtering based on tributary**

X.msr-rpr highlights (2)

- (7) Tx and Rx of Data done by RPR, Topology Discovery done by RPR**
- (8) Local Node address**
- (9) FSN for Performance Monitoring**
- (10) Tributary Type and Tributary Number**
- (11) Interface to RPR MAC, Interface to Client of X.msr-rpr protocol by reference points**
- (12) Single-ring, Link and Broadcast Topology**

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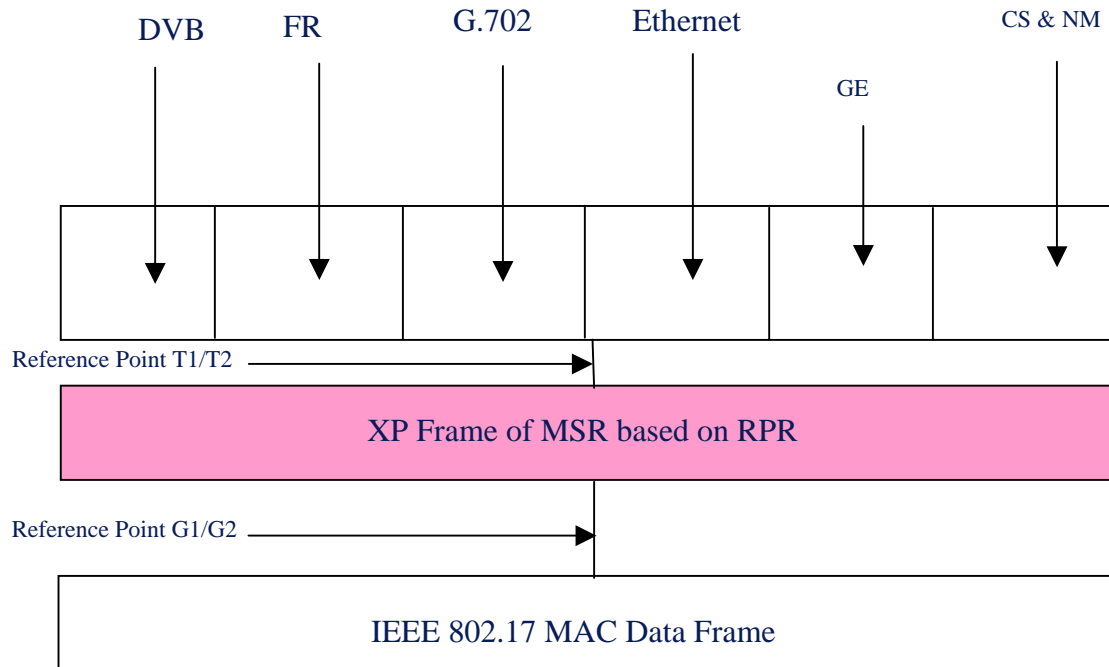
A Data Node



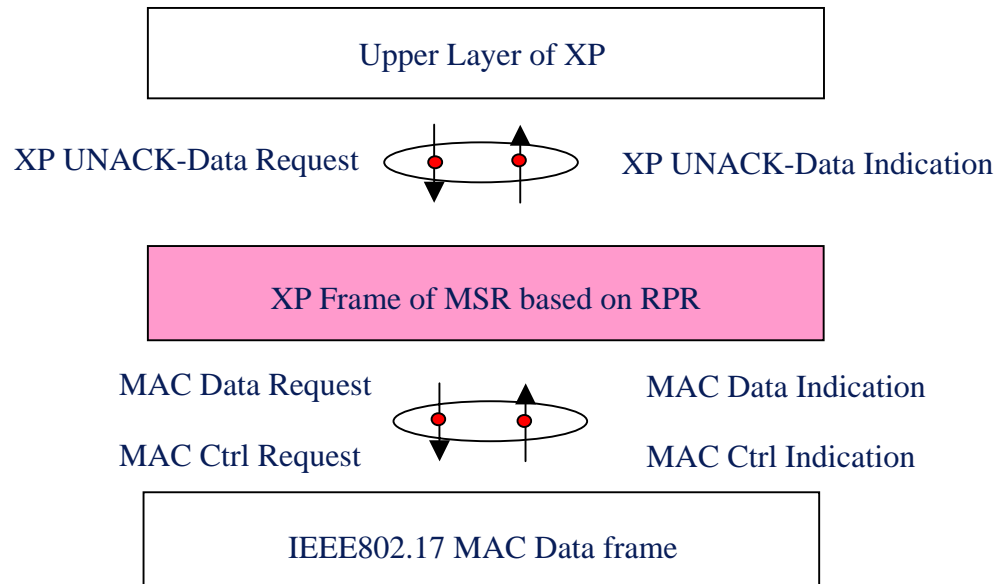
Tx and Rx diagram of a Data Node

 RPR MAC implementation

ITU-T SG17, Question 7



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Interface to RPR MAC, Interface to Client of X.msr-rpr protocol by reference points

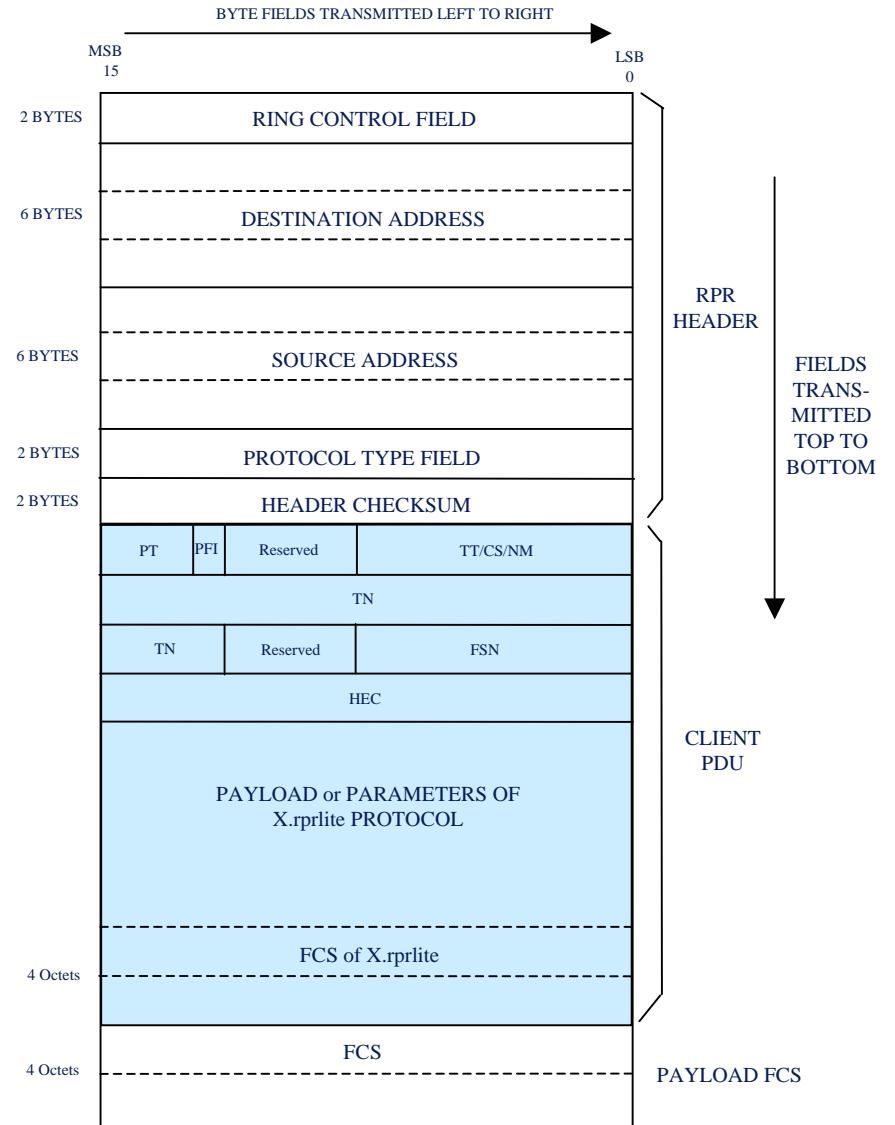
RPR Header



X.msr-rpr protocol



RPR FCS



Frame Format