

RPR MAC model

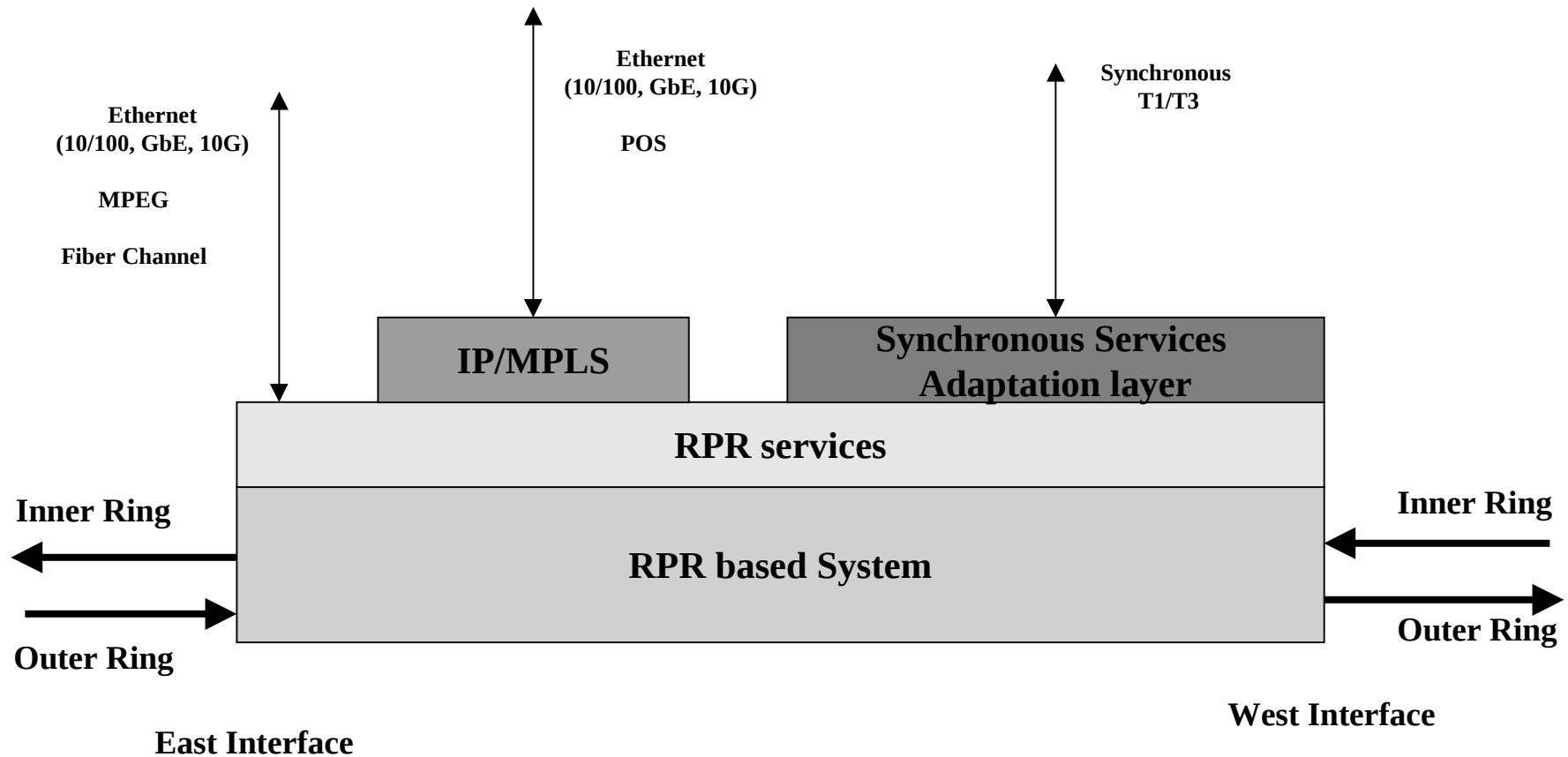
Raj Sharma

Luminous Networks, Inc.

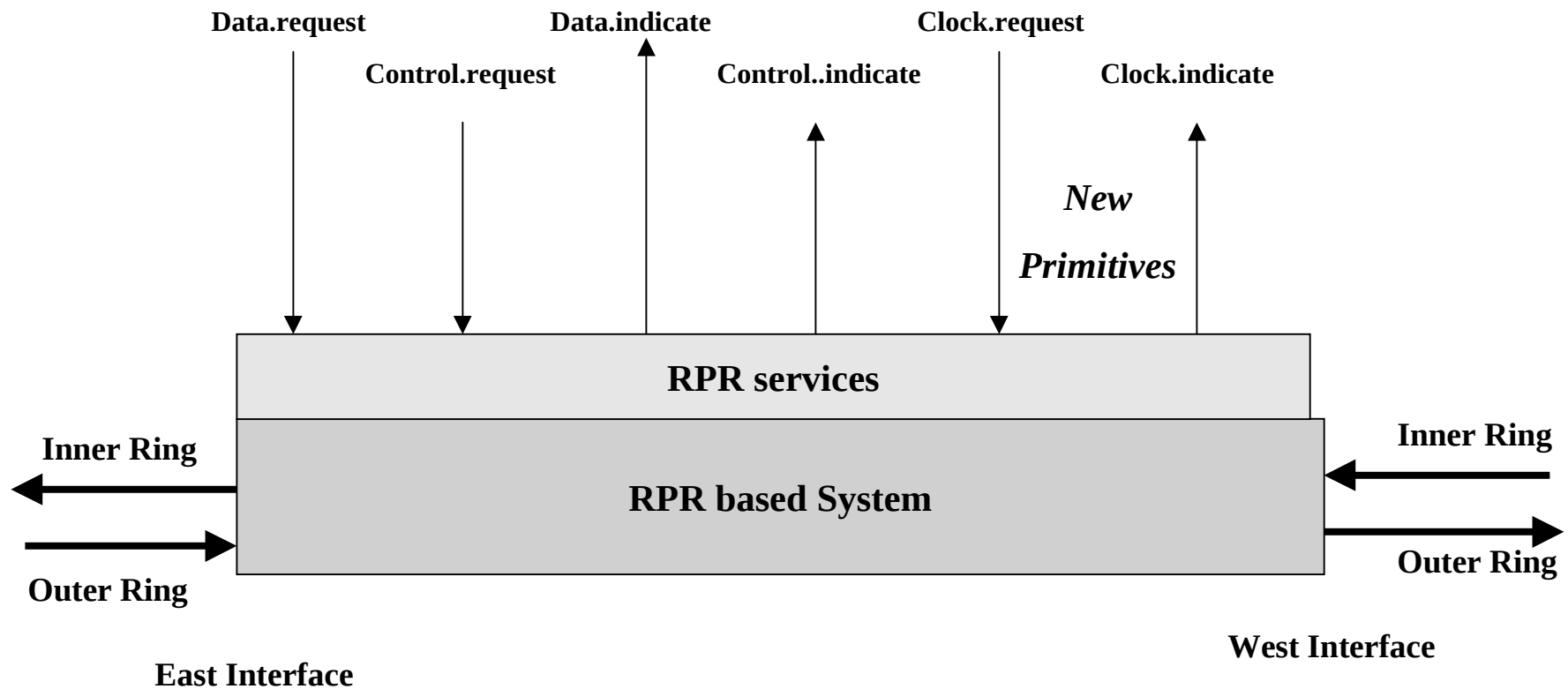
Purpose

- To start process of fitting requirements, reference implementations and 802 standard
- Provide a model that will allow mapping various QoS, topology discovery and protection scheme into a model for simulation
- Highlight the issue of reducing jitter in control signaling

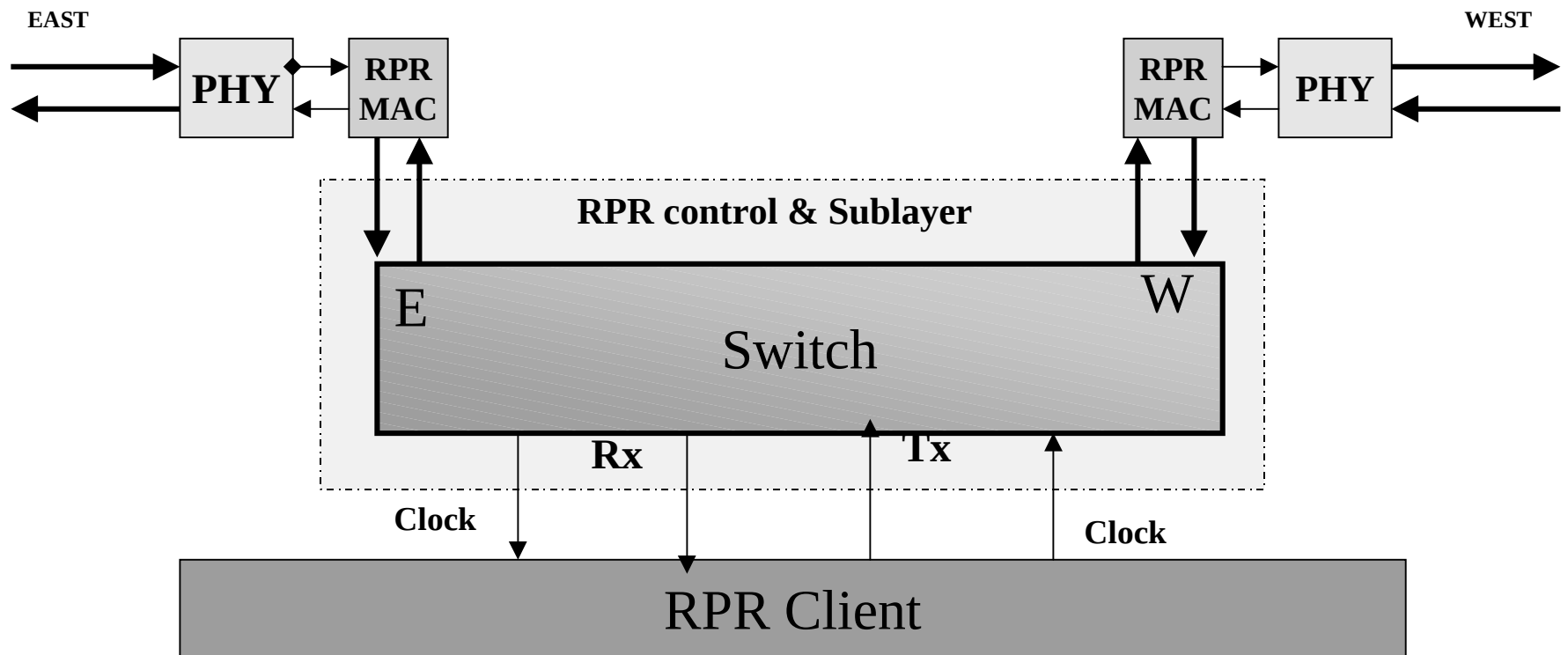
Reference System



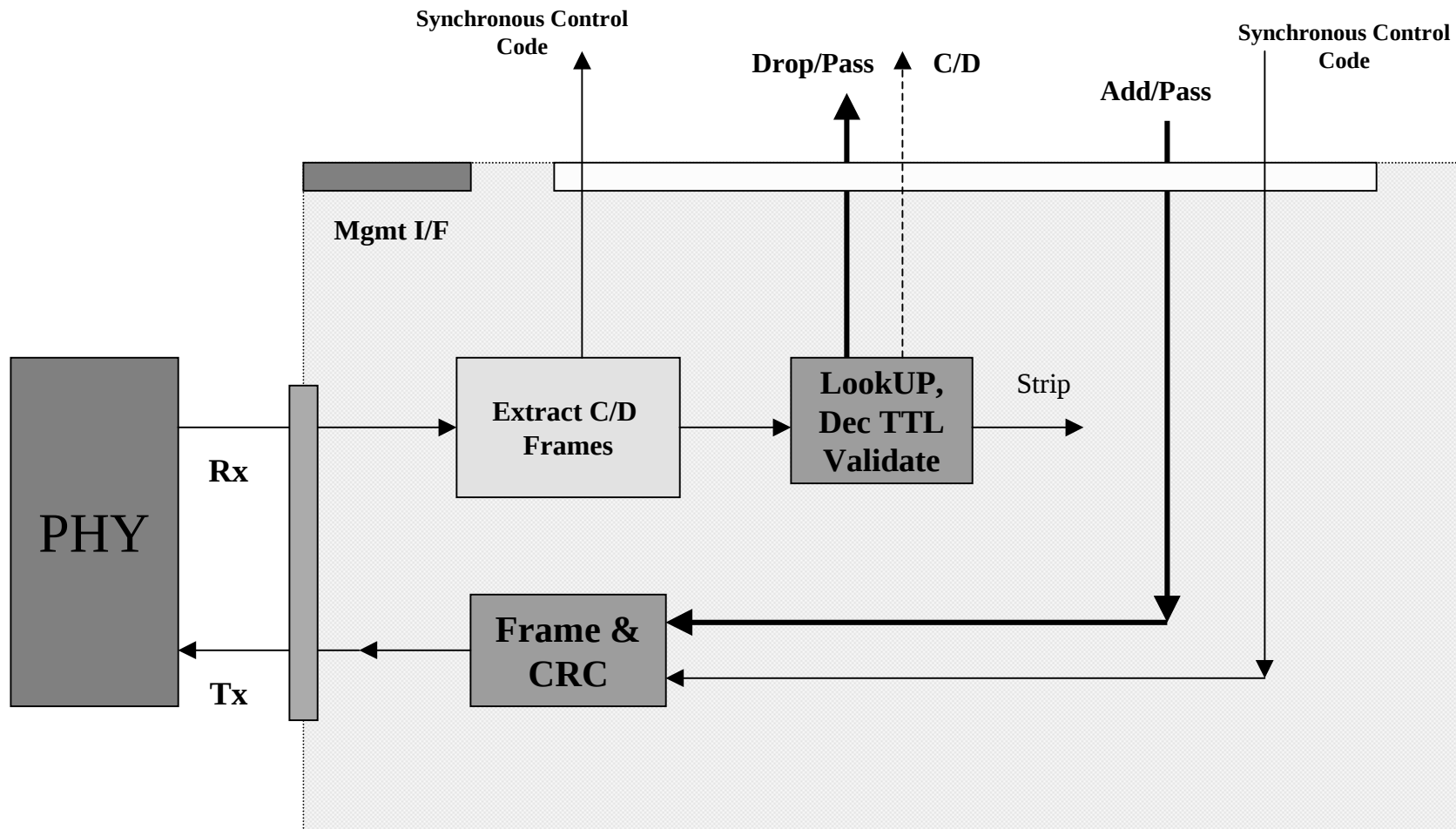
Service Primitives



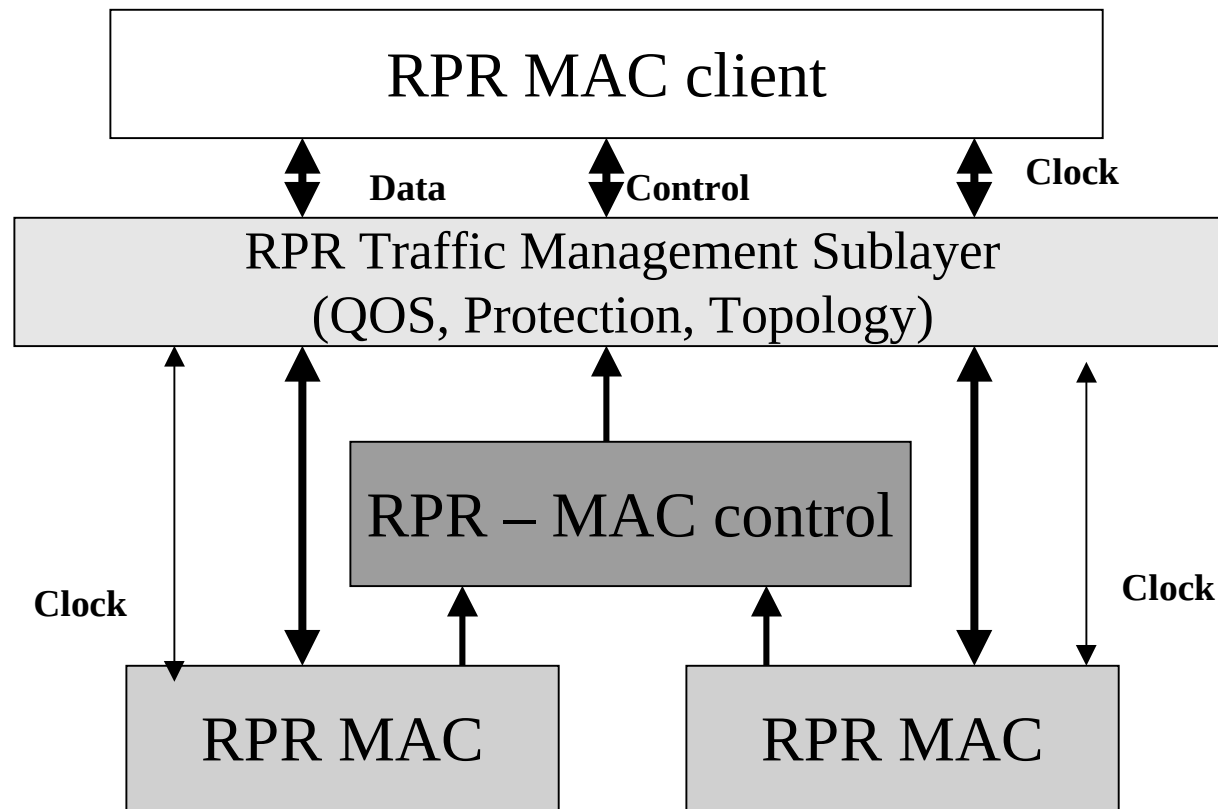
Reference Implementation



Mac model



RPR layers



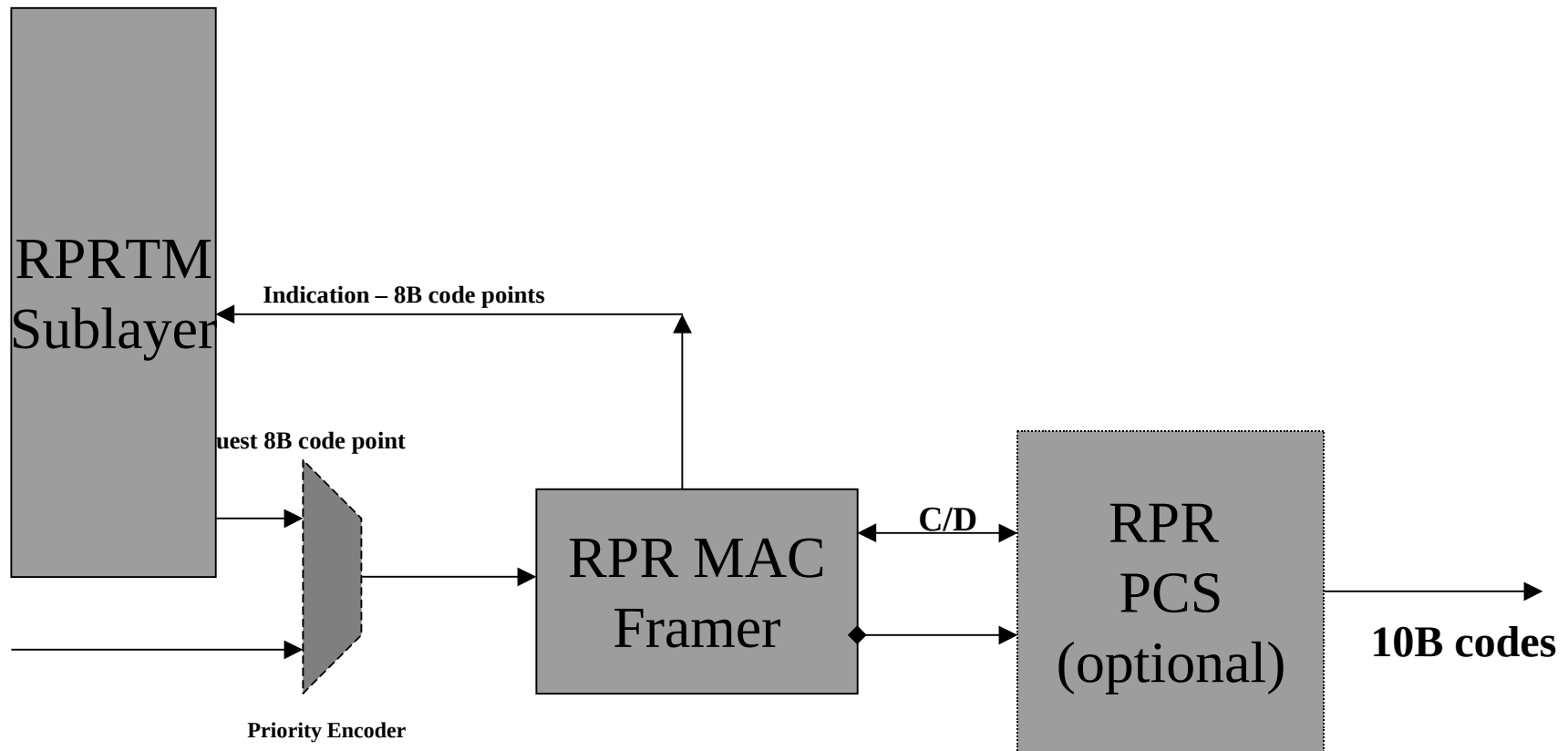
Control Plane Performance

- Control plane jitter should be minimum and not tied to MTU size
 - Jitter tolerant - Normal control packets:
 - Topology discovery and fairness messages
 - Jitter non-tolerant – Synchronous Control Codes:
 - Point-to-Point: Neighbor health
 - Relay: clock distribution

Solutions

- SONET
 - Send normal control packets between data packets
 - Send synchronous control codes using OH
- Dark Fiber (8B10B)
 - Send normal control packets between data packets.
 - Send Synchronous control codes in the middle of a data frame, if needed. -> Requires New PCS.

8B10B solution



Send special 8B10 Characters without waiting for frame to end