

High-Level Requirements for the RPR MAC Client Interface

RPRWG Meeting 3/2001

Offer Pazy
pazy@nativenetworks.com



Disclaimer

The following points are presented at a very high level. No attempt is being made to dive down to specific interface details

The RPRWG has not yet agreed upon objectives and requirements, hence the following should be viewed only as general ideas

Assumptions on the Model

Single client/single server model

Multiplexing is done above by the client

The RPR layer is *thin* to allow vendors to offer value and to build RPR devices for different markets

Fairness and BW management is by the client!

Congestion management is split

The MAC provides basic flow control

The client uses this to control ingress traffic

Data Forwarding

Send_Pkt (buffer, direction, priority)

Receive_Pkt (buffer, direction, priority)

Selective flow control per direction and priority

3-8 priority levels

Or just 1 to avoid reordering (?)

Minimal size for thru and add buffers

Handling of instantaneous contention only

Mechanisms to report on watermarks

RPR header size must be $n * 32\text{bits}$ to allow for efficient alignment

Payload Types

In the data path, we should not assume that the payload is Ethernet
Bridging issues?

Topology Discovery

The ring topology should be communicated to the client

At start-up

When a new node is inserted

- It should get a fresh copy of the topology

- Other nodes should be notified

A way to communicate with East/West neighbors

- The SONET/SDH HELLO (J1 path trace) should be left alone

Protection

Protection events and corrective actions should be communicated to the client based on topology

Source squelching should be supported (and a notification propagated)

If both wrapping and rerouting is supported, client should have control

The client should be able to inject forced protection events

Performance Monitoring

Counters maintained by the RPR MAC layer should be available to the client via MIBs

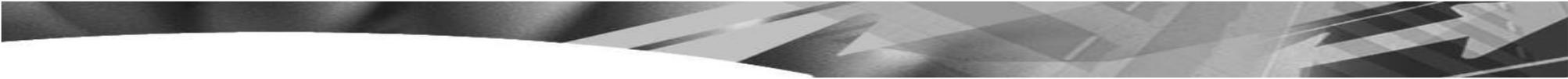
Proposal

Consider:

- The general approach

- The specific requirement

Add to the WG agreed-upon list of requirements



Thank You

Offer Pazy