IEEE 802.17
Alternative Frame Format

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Corrigent Systems

The Motivation

- Reduce the cost structure of RPR based MAC to facilitate wide market adoption for RPR
- Allow the RPR implementation to be based on off-the-shelf Ethernet MAC/Bridge devices
- Maintain the high-quality packet ring feature set and functionality

Objectives

- Ethernet-like framing
- Add RPR specific headers over Ethernet frame structure
- Maintain all RPR “goodies” :
  - Topology auto-discovery
  - Spatial reuse
  - RPR protection (steer, wrap optional) sub 50mSec
  - Classes of service (A, B, C)
  - Span/Client performance monitoring counters (per SC per CIR/EIR)
  - Optional HEC and stomping treatment
  - Optional Fairness
  - Transit queuing
    - PTQ & STQ (in case fairness is used) or
    - Per service class queuing with WRED

Suggestion for Alternative Frame Format

- Ethernet “friendly” frame structure :
  - DA
  - SA
  - Ethertype (indicates that RPR control field follows)
  - RPR control field
  - payload
  - FCS
- RPR control field consists of : TTL, RI, SC, FE, etc.