

# Service Classes in the 802.17 MAC

Anoop Ghanwani  
anoop@lanterncom.com

IEEE 802.17 Plenary Meeting  
Vancouver, BC, Canada  
July 2002

# Motivation

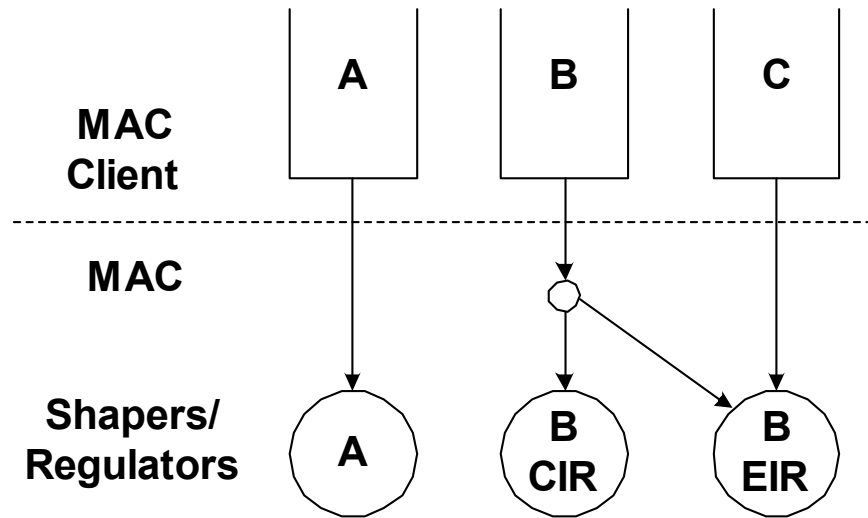
- The current specification for the RPR MAC has 3 service classes – Class A, Class B, Class C
- Class B-EIR and Class C frames receive exactly the same behavior and treatment from the MAC
  - No difference in ring access or transit operation
- Can we get by with just two traffic classes?
  - Class A and Class B (Committed and Excess)
- Fewer classes is better
  - Simplifies the MAC specification (data path, statistics, etc.)
  - Removes any confusion with respect to priority between Class B-CIR, Class B-EIR, and Class C traffic

# Service Class Definitions in P802.17/D0.3

- Class A
  - Uses a shaper provisioned for a certain rate
- Class B
  - Uses 2 shapers – Class B/Class C
  - May be committed (CIR) or excess (EIR)
  - If a frame is within the CIR, it uses the Class B shaper, and the FE bit is not set in the packet
  - If a frame is above the CIR, it uses the Class C shaper, and the FE bit is set in the packet
- Class C
  - Uses a shaper for Class C traffic that is controlled by the fairness algorithm
  - For Class C data, the FE bit is always set

*Since Class C frames receive treatment that is no different from Class B EIR frames during ring access and during transit, does the MAC need to know the difference?*

# 802.17 MAC With Two Service Classes



- The client can have 3 (or more) service classes if it wants
- Within the MAC, they map to either Class A, Class B-CIR, or Class B-EIR
- For Class C frames, the client simply requests Class B-EIR service (i.e. Class B with FE set)
- The Class B-EIR regulator is controlled by the fairness algorithm

# Conclusions

- The 802.17 MAC does not need three service classes
  - Class B EIR frames and Class C frames receive identical treatment from the MAC in all respects
- Instead, the MAC can do everything needed with two service classes
  - Provide the ability for the client to directly request Class B EIR service from the client
  - Remove the definition of Class C service