

Oct-28-2008

Note Title

10/28/2008

Wireless

- Problems

- noise
- multipath (fading)
- hidden terminal problem

- IEEE 802.11

- CSMA / CA
 - * RTS ←
 - * CTS ←
- Adaptive rate AMC
- Infrastructure
- Ad-hoc

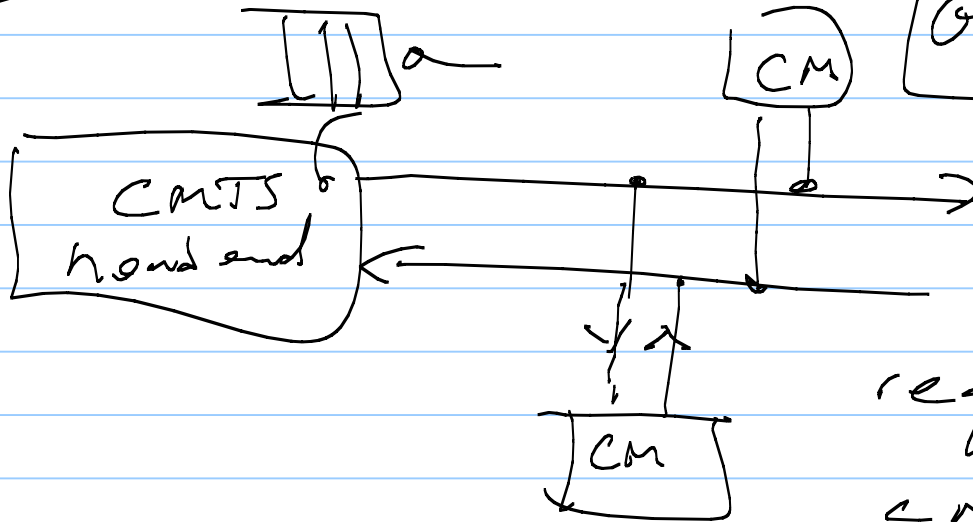
Cable networks

+ Up stream

+ Down stream

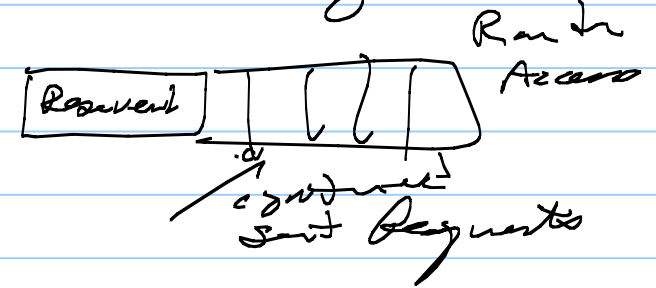
Multi-point to point
Point to multi-point

✗



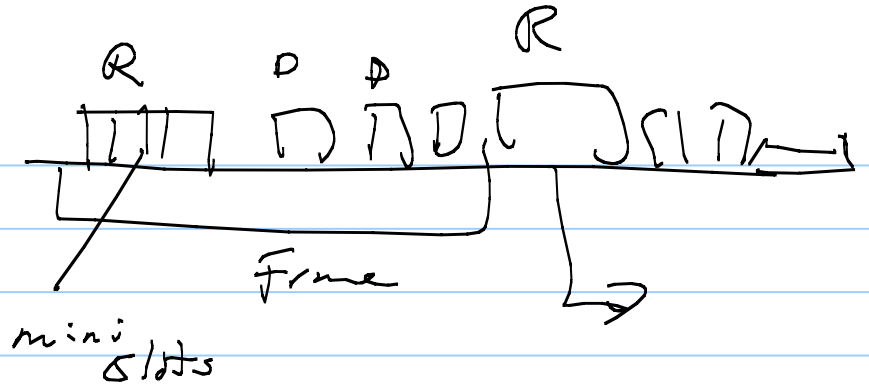
request to TX to CMTS
CMTS issues grants

Random access protocol



- General Analysis

+ FDD
 ↓
 TDD



$S_{avg} =$

Case 1

1 mini slot / station
 Request 1 packet to TX
 per mini slot

$$S_{avg} = \frac{1}{1 + \frac{V}{X}} \quad \begin{matrix} V = \text{slot} \\ X = \end{matrix} \quad X = L/C$$

Case 2

1 mini slot / station
 Request 2 packets to TX
 per slot



$$S_{max} = \frac{1}{1 + \frac{v}{kX}}$$

Case 3 : Random access protocol to send Repeat

$$S_{max} = \frac{1}{1 + \frac{2.7v}{X}}$$

802.16

+ Broadband DOCSIS

+ DOCSIS

+ RTPM

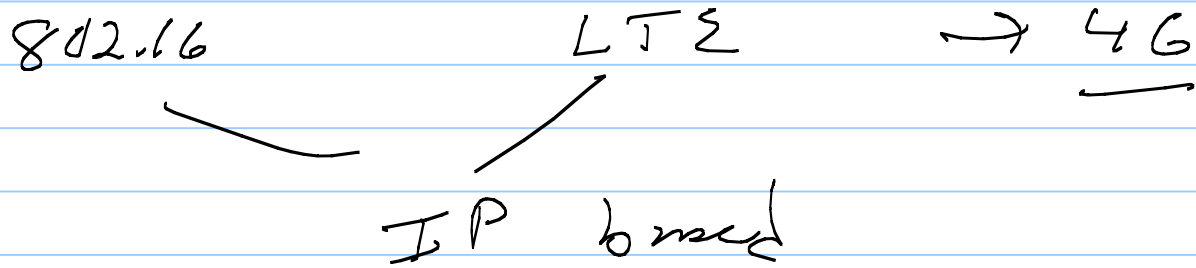
+ USG

+ BE

802.16 E

DOCSIS

4 G02.0G e mobile



- DSL

- Power line

