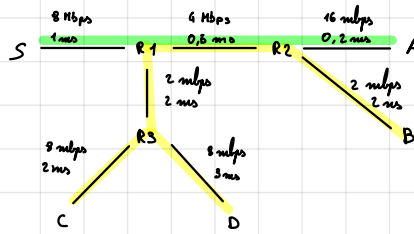


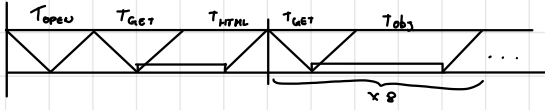
...

# ESERCIZIO

A → S HTTP  $l = 100B$ ,  $L = 1MB$   $n = 8$   
D → B, C → B FTP



1) *parallelamente*:



$$RTT = 2(\tau_1 + \tau_2 + \tau_3) \quad T_{OPEN} = T_{GET} = RTT$$

$$T_{HTL} = \frac{l}{R_{HTL}} = \frac{100 \cdot 8}{2 \cdot 10^6} = 0,4 \text{ ms}$$

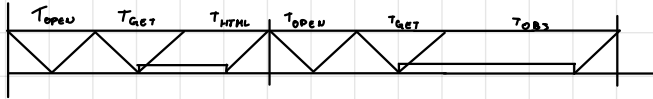
$$T_{OB} = \frac{L}{R_{OB}} = \frac{8 \cdot 10^6}{2 \cdot 10^6} = 4 \text{ s}$$

$$R_{HTL} = R_{OB} = 2 \text{ Mbps}$$

1 Mbps vs.  $\frac{4}{3}$  Mbps → cap. res. di 2 Mbps per S → A

$$T_R = T_{OPEN} + T_{GET} + T_{HTL} + 8(T_{GET} + T_{OB}) = 32,03 \text{ s}$$

2) *non parallelamente in parallelo*



$$RTT = 2(\tau_1 + \tau_2 + \tau_3) \quad T_{OPEN} = T_{GET} = RTT$$

$$R_{HTL} = 2 \text{ Mbps}, \quad R_{OB} = \frac{4}{10} \text{ Mbps}$$

$$T_{HTL} = 0,4 \text{ ms}$$

$$T_{OB} = \dots = 20 \text{ s}$$

1 Mbps vs  $\frac{4}{10}$  Mbps → tutti saturati o 0,4 Mbps.

$$T = 2T_{OPEN} + 2T_{GET} + T_{HTL} + T_{OB} =$$