

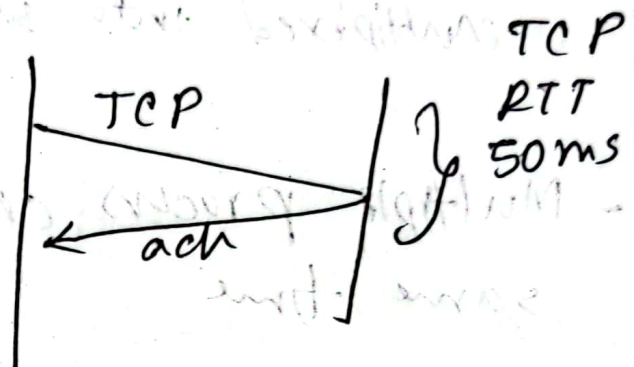
Math

Total Objects = 46

download time = 209 ms

TCP RTT = 50ms

HTTP RTT = 158ms



(a) Non persistent

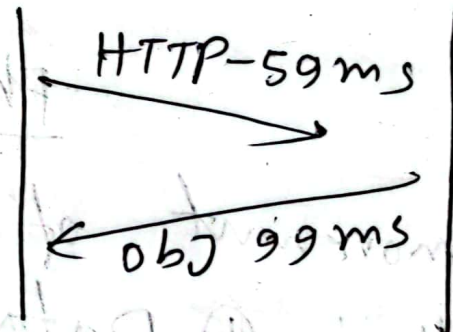
$$TRR = \text{HTTP RTT} \times 46 +$$

$$\text{TCP RTT} \times 46$$

$$= 158 \times 46 + 50 \times 46$$

$$= 9568 \text{ ms}$$

$$= 9.568 \text{ s}$$



HTTP RTT = 158ms

$$(b) OTT = 46 \times 209 = 9614 \text{ ms}$$

$$(c) FTT = TRR + OTT = 19182 \text{ ms}$$

19182

④ pipeline = 3

$$\text{effective object} = \left[ \frac{\text{Total Obj}}{\text{pipeline}} \right] \text{ ceiling}$$

Q What if Non persistent? in TCP how many objects? (16)

$$= \frac{46}{3} = 15.33 \approx \boxed{16}$$

$$\text{TRRT} = \text{HTTP RTT} \times 16 + \text{TCP RTT}$$

$$= 158 \times 16 + 50$$

$$= 2578 \text{ ms}$$

$$\text{OTT} = \cancel{16 \times 209} = \cancel{1584}$$

$$\rightarrow 16 \times 209 = 3344 \text{ ms}$$

$$\text{TFF} = \text{OTT} + \text{TRR} = 5922$$

$$\rightarrow \text{normal } 9162$$