Assignment-4

Unit-4

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scenario: An e-commerce platform uses TLS over HTTP/2.

parameters: RTT=100ms cwnd=20KB MSS=1000B

Questions:

1. If TLS adds 250 ms latency and HTTP/2 reduces latency by 30%. What net latency?

Ans) Step 1:. Assume intial latency

Let the Intial latency by Lms

Step 2:. Adds TLS latency

TLS adds 50ms to the latency

New Latency = L+50

Step 3:. Apply HTTP/2 reduction

HTTP/2 reduces latency by 30%. So final latency becomes

Final latency = (L+50) x (1-0.30)

Final latency = (L+50) x 0.70

Step 4:. Result in terms of L

the net latency after both effects.

Net latency = 0.70 x (L+50)

L is intial latency = 100ms

= 0.70 x (100+50) = 0.70 x 150

= 105 ms

Question

2) If 10 streams are multiplexed in 1 connection how many TCP connects are saved.

A) Steps 1:. Understand what multiplexed in a connection means

=) In HTTP/2 multiple streams can be sent over a single TCP connection

=) Multiplexing allows multiple requests and response to shares the same connections

☞ Step 2:. • Number of streams = 10
• All are multiplexed in one connection

☞ Step 3:. Apply the concept

=) Since multiplexing allows multiple streams over 1 TCP connection

=) If you do not need 10 seperate connections

=) All 10 streams share the same TCP connection

Final:.

Only 1 TCP connection is used for 10 - Multiplexed streams

Question:

3) If each stream transmits 500KB. What is total data sent

Ans) Step 1: Identify the given information

- Data per stream = 500KB
- From the previous Questions we know 10 Streams

Step 2: USE FORMULA

Total Data sent = NO of Streams x Data per stream

Step 3: Substitive values

Total Data sent = 10 x 500KB

= 5000 KB

Step 4: Convert to MB

5000KB = 5MB

Final answer:

Total Data sent = 5000KB (or) 5MB