

Solutions

2.1 A Transmission time depends on data size and rate. Total delay may also include propagation, processing and queueing. Encryption protects content under its assumptions but does not remove congestion or every metadata exposure.

2.2 transmission time=size/rate=12/3=4s.

2.3 False. A megabyte is eight megabits before considering overhead. A faster rated link does not guarantee low latency or secure endpoints.

2.4 throughput. throughput means Achieved rate of useful data transfer.

3.1 Time=12/3+0.10=4.10 s, omitting other delays. Doubling bandwidth gives 2.10 s; propagation remains. Protocol and queueing may add delay.