

Solutions

2.1 B Separate authentication from authorization. Authentication checks identity; authorization determines permitted actions. A threat model connects a valuable asset, a possible attack and an appropriate control.

2.2 $\text{time} = \text{size} / \text{rate} = (40 \text{ million bits}) / (5 \text{ million bits/s}) = 8 \text{ s}$.

2.3 False. Bandwidth is not actual end-to-end throughput. Encryption does not by itself ensure correct authorization or remove every security risk.

2.4 authentication. authentication means Checking an asserted identity.

3.1 $\text{Time} = 20 \times 10^6 \times 8 / (10 \times 10^6) = 16 \text{ s}$. Overhead, contention and delays add time. Distinguish bits from bytes and storage capacity from sustained transfer rate.