

12. Match the layers—Link, Network, and Transport—with the guarantees that each layer could provide to higher layers.

| Guarantee | Layer |
|---------------------------------|-----------|
| Best effort delivery | Network |
| Reliable Delivery | Transport |
| In-order Delivery | Transport |
| Byte-stream abstraction | Transport |
| Point-to-point link abstraction | Data link |

13. Suppose that two network endpoints have a round-trip time of 100 milliseconds, and that the sender transmits five packets every round trip. What will be the sender's transmission rate for this round-trip time, assuming 1500-byte packets? Give your answer in bytes per second

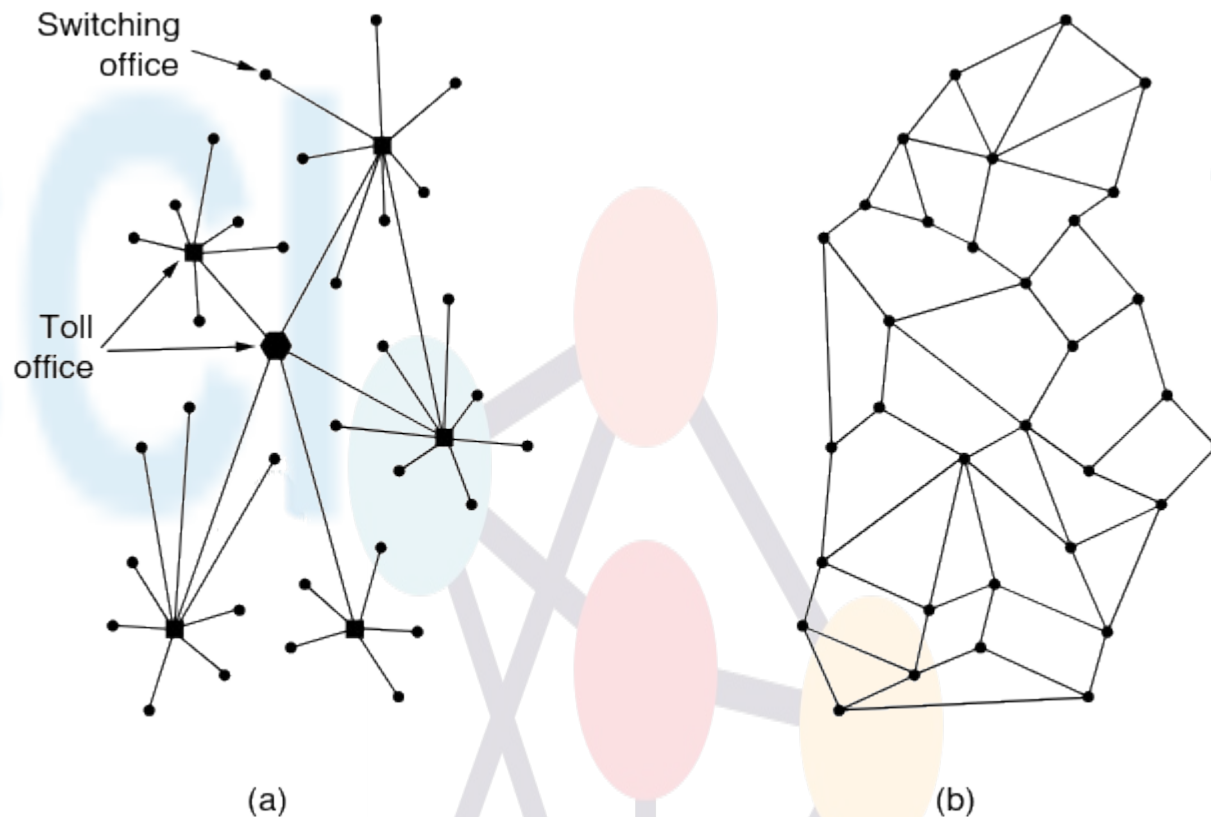


Figure 1-12. (a) Structure of the telephone system. (b) Baran's proposal.

- 25.** The subnet of Fig. 1-12(b) was designed to withstand a nuclear war. How many bombs would it take to partition the nodes into two disconnected sets? Assume that any bomb wipes out a node and all of the links connected to it.