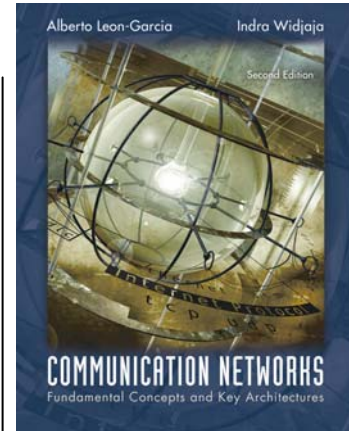
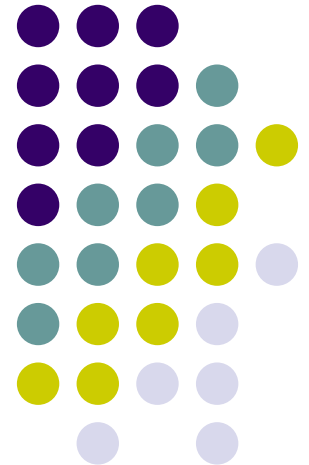


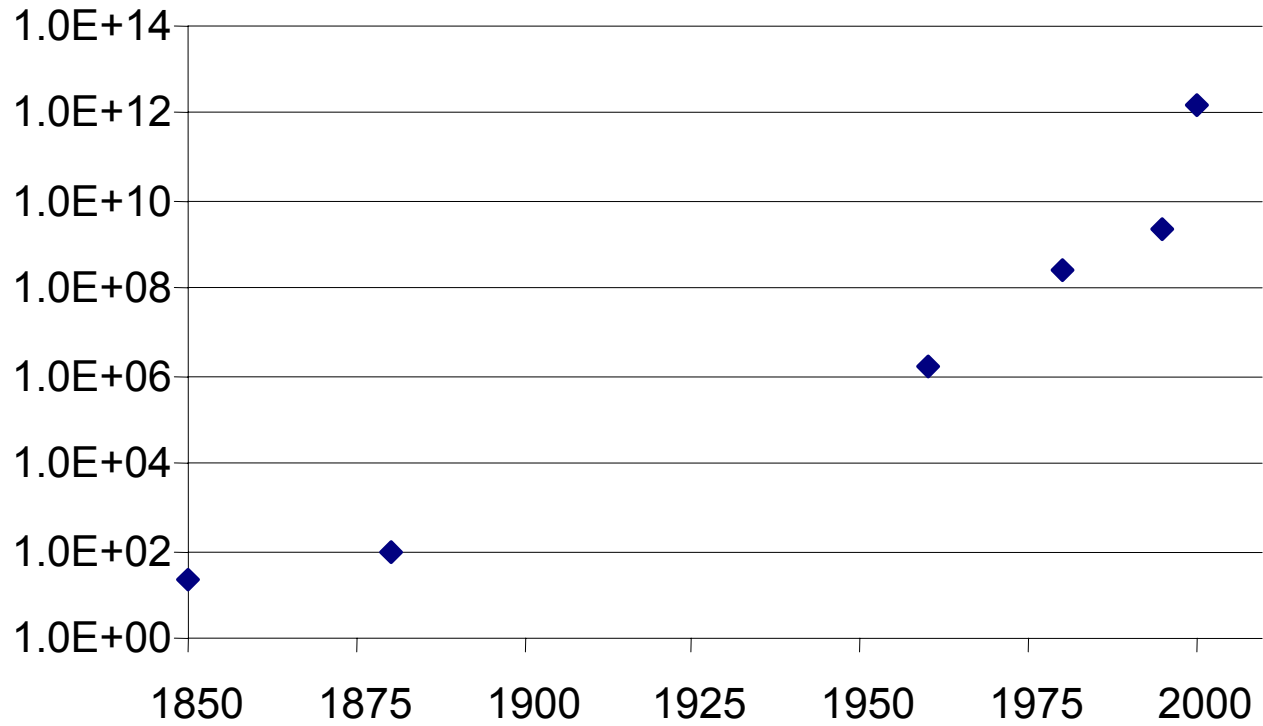
Chapter 1

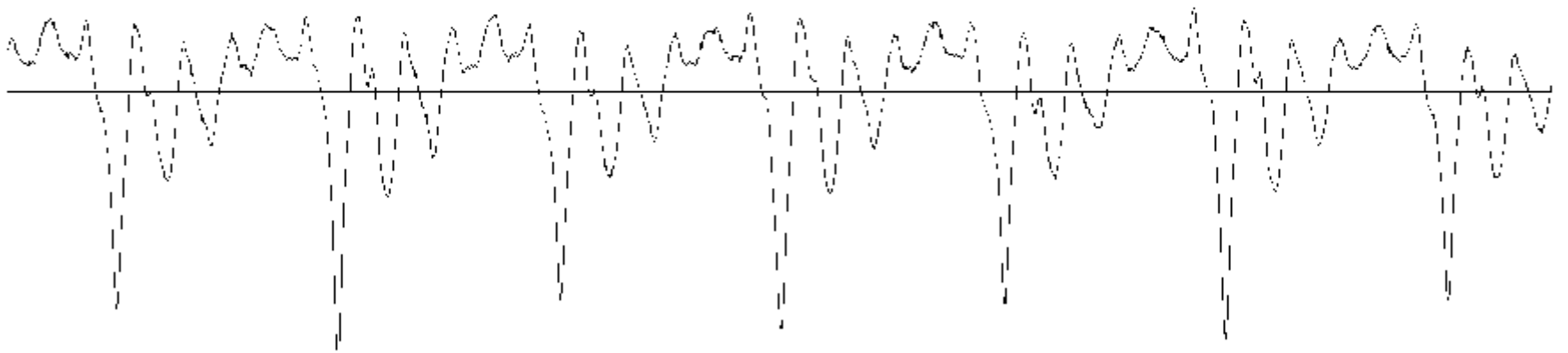
Communication Networks and Services

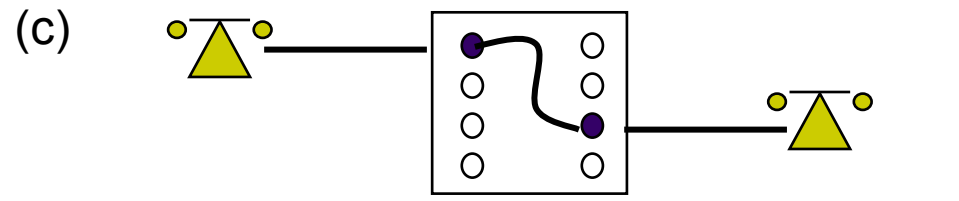
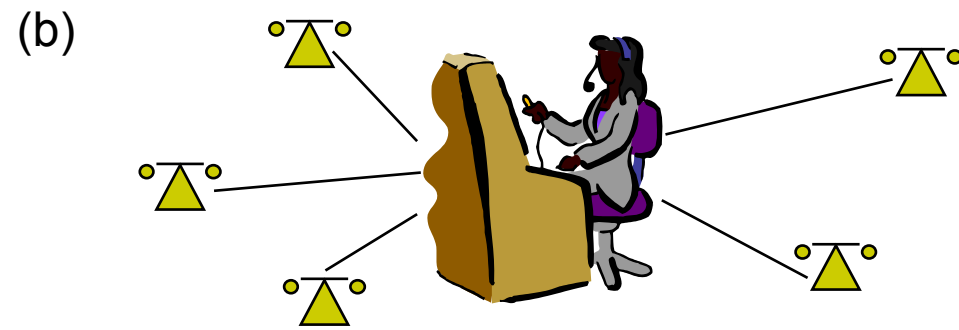
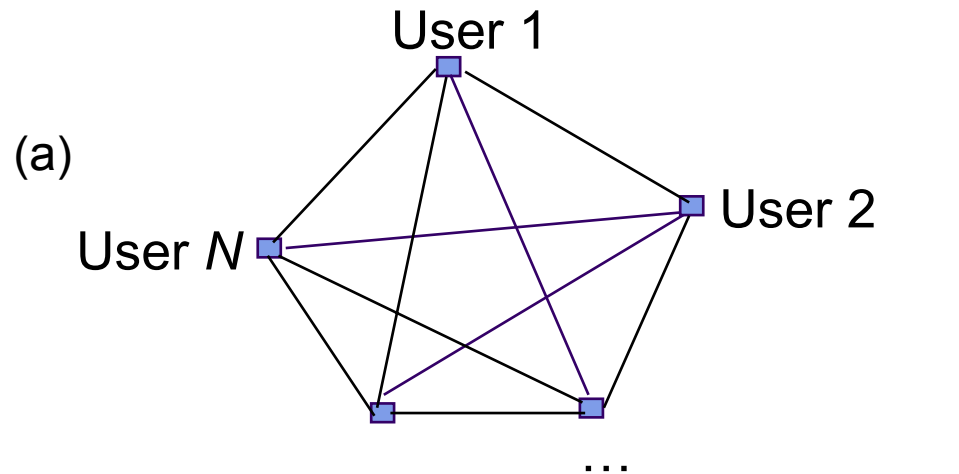


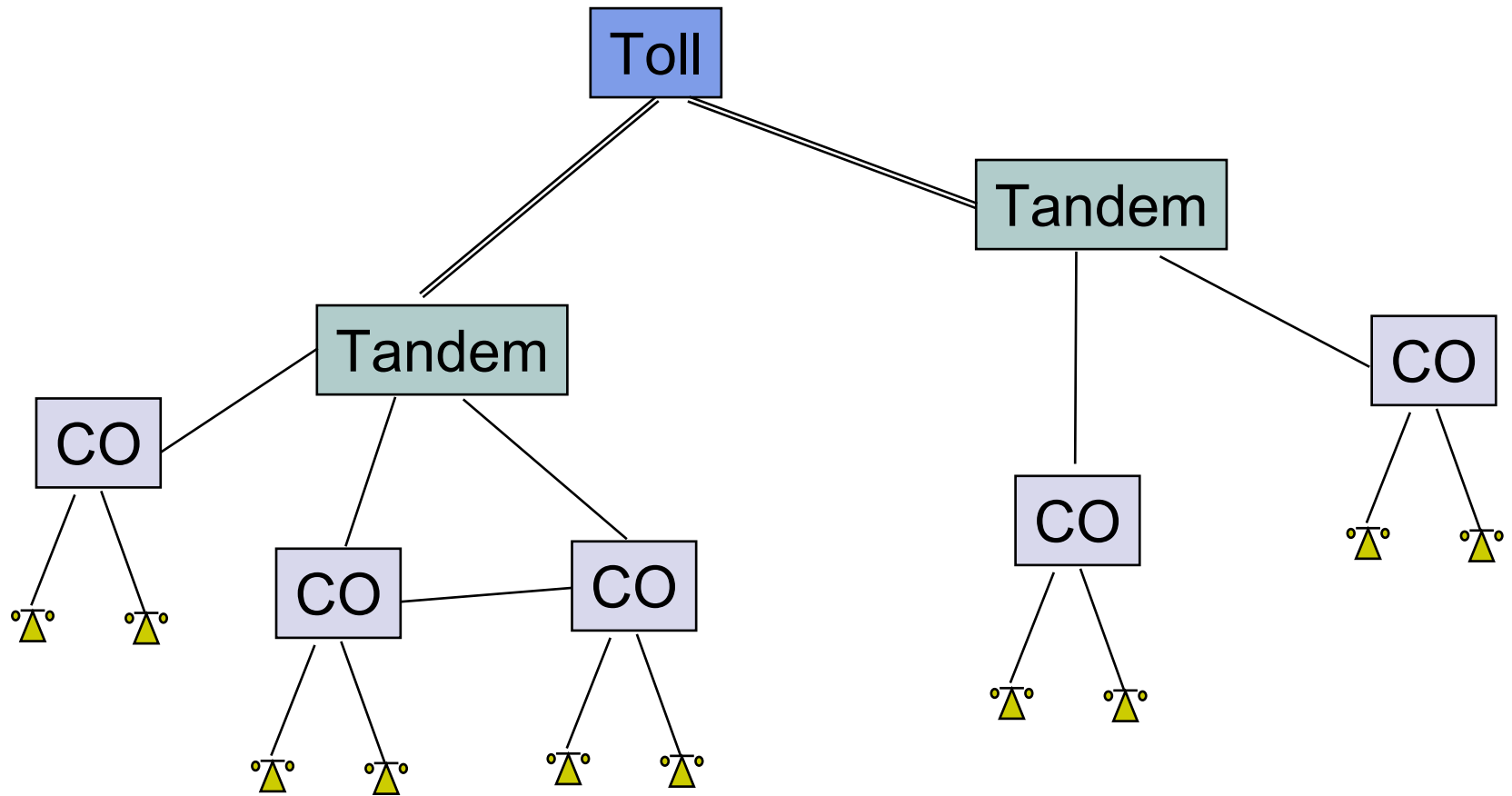
Chapter Figures





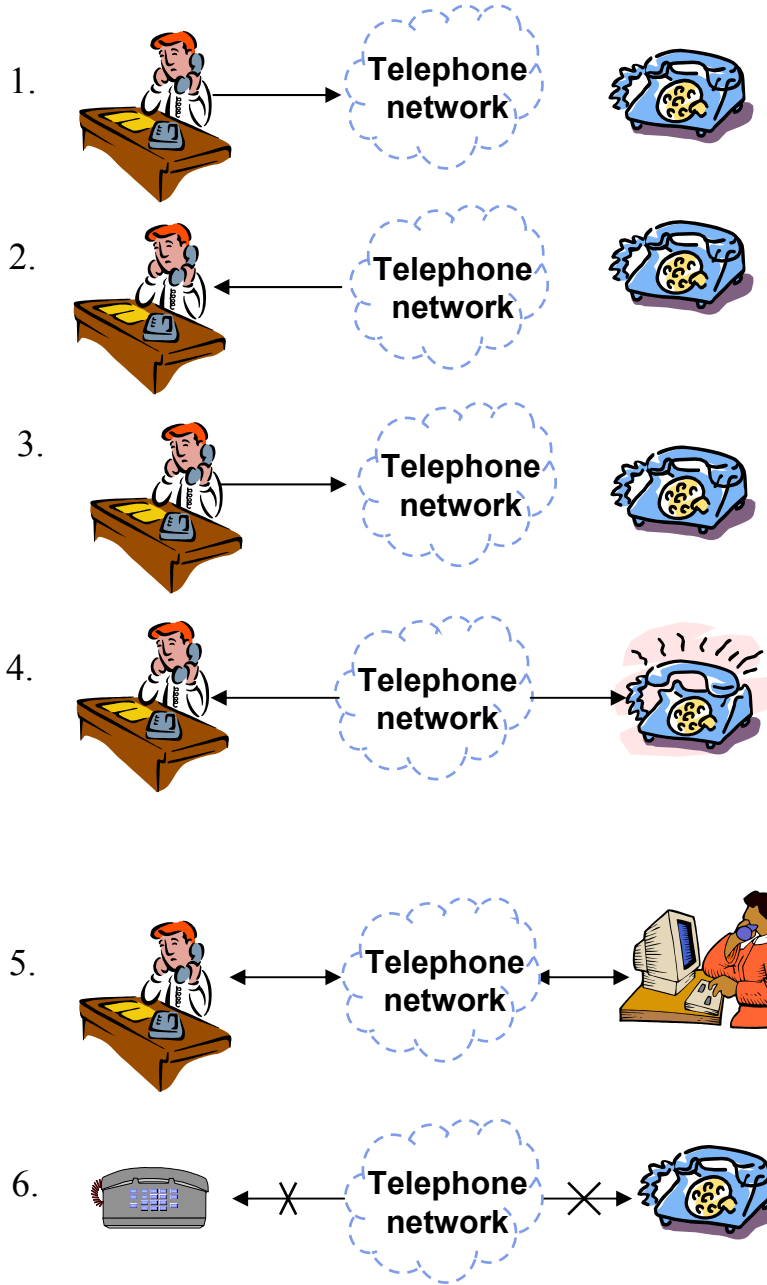






CO = central office

Connection setup
Information transfer
Connection release



1. The caller picks up the phone triggering the flow of current in wires that connect to the telephone office.

2. The current is detected, and a dial tone is transmitted by the telephone office to indicate that it is ready to receive the destination number.

3. The caller sends this number by pushing the keys on the telephone set. Each key generates a pair of tones that specify a number. (In the older phone sets, the user dials a number that in turn generates a corresponding number of pulses.)

4. The equipment in the telephone office then uses the telephone network to attempt a connection. If the destination telephone is busy, then a busy tone is returned to the caller; otherwise ringing signals are sent to both the originating and destination telephones. The ringing signals are discontinued when the destination phone is picked up and communication can then proceed.

5. The voice signals travel in both directions.

6. Either user terminates the call by putting down a receiver.



Caller
 Caller replies
 Caller replies
 Caller replies
 Caller waits
 Caller replies
 Caller waits
 Caller dials

Dials 411

“What city?”

“Springfield”

“What name?”

“Simpson”

“Thank you, please hold”

“Do you have a first name or street?”

“Evergreen Terrace”

“Thank you, please hold”

System replies

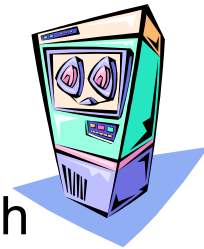
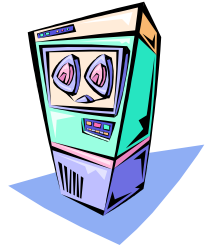
System replies

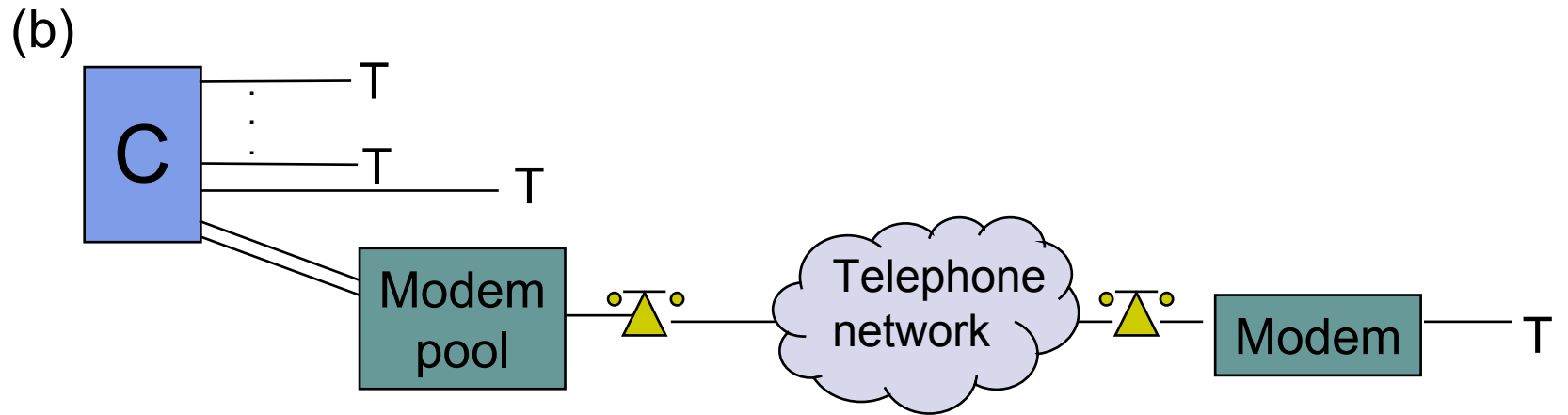
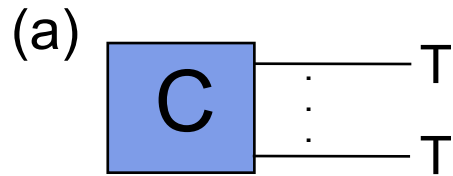
System replies

Operator replies

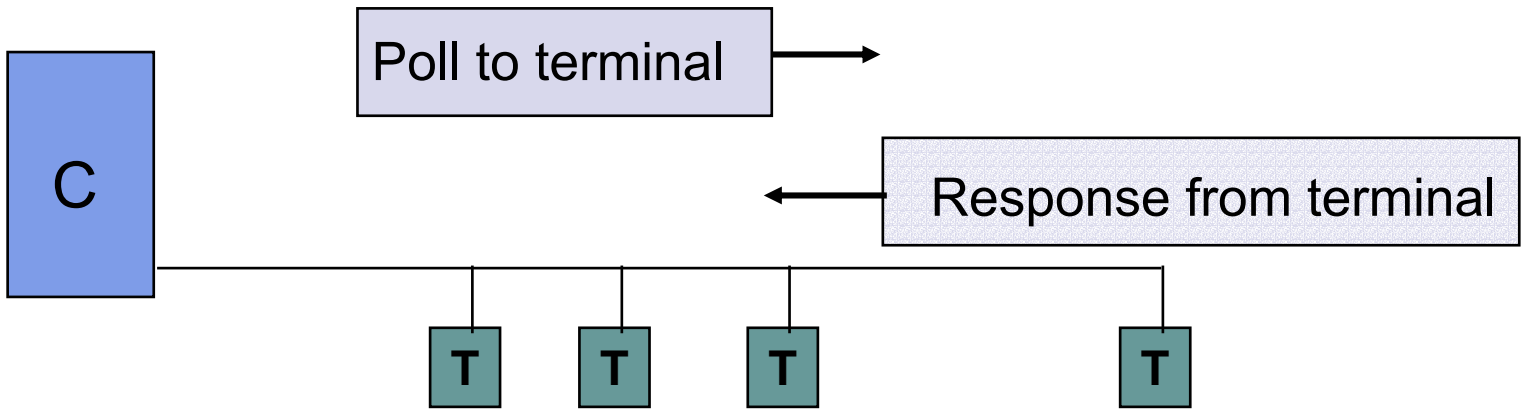
Operator replies

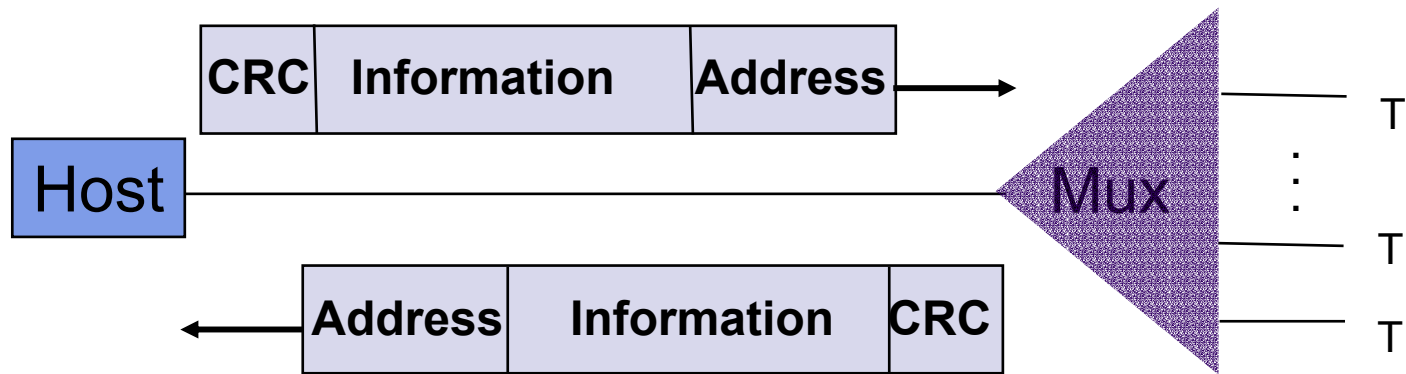
System replies with number

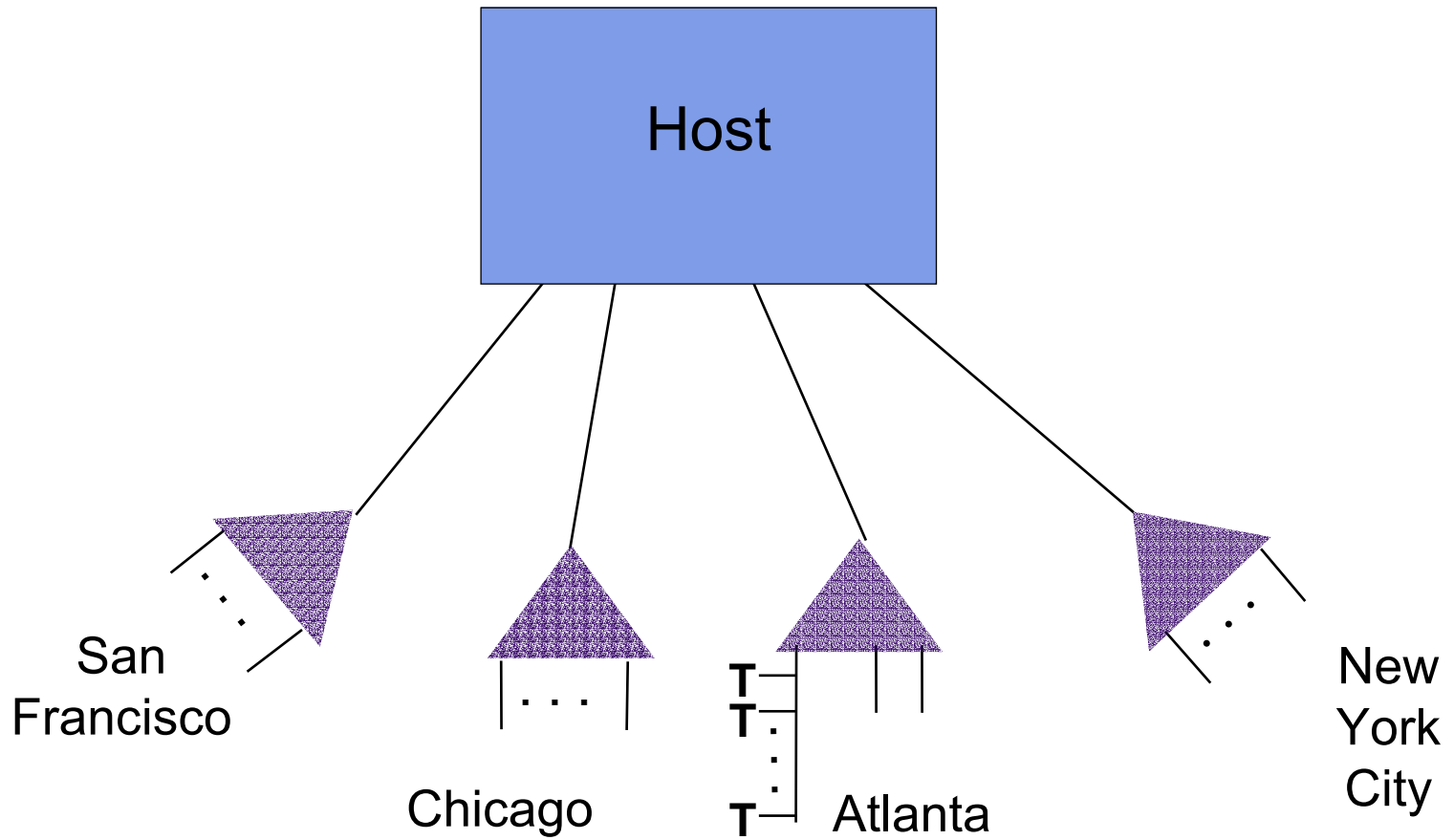


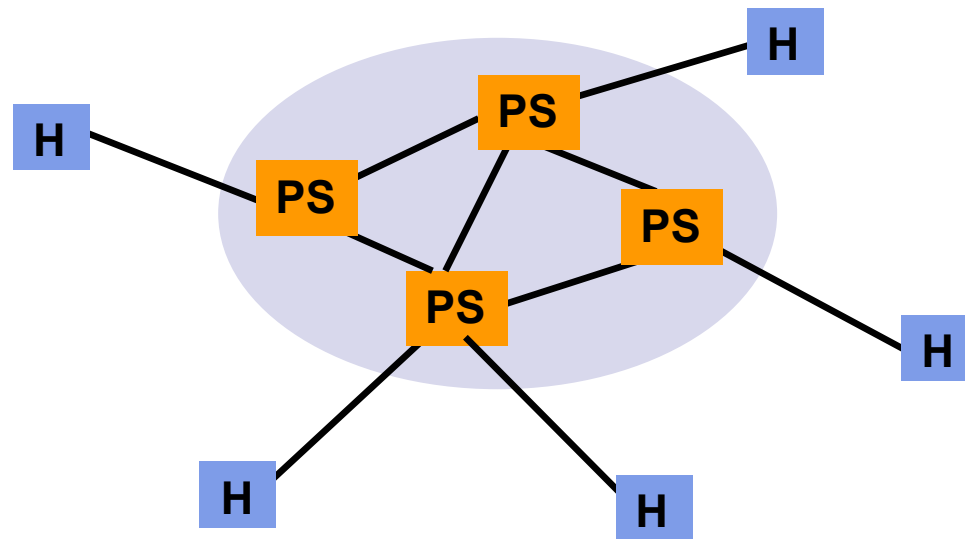


C = computer
T = terminal

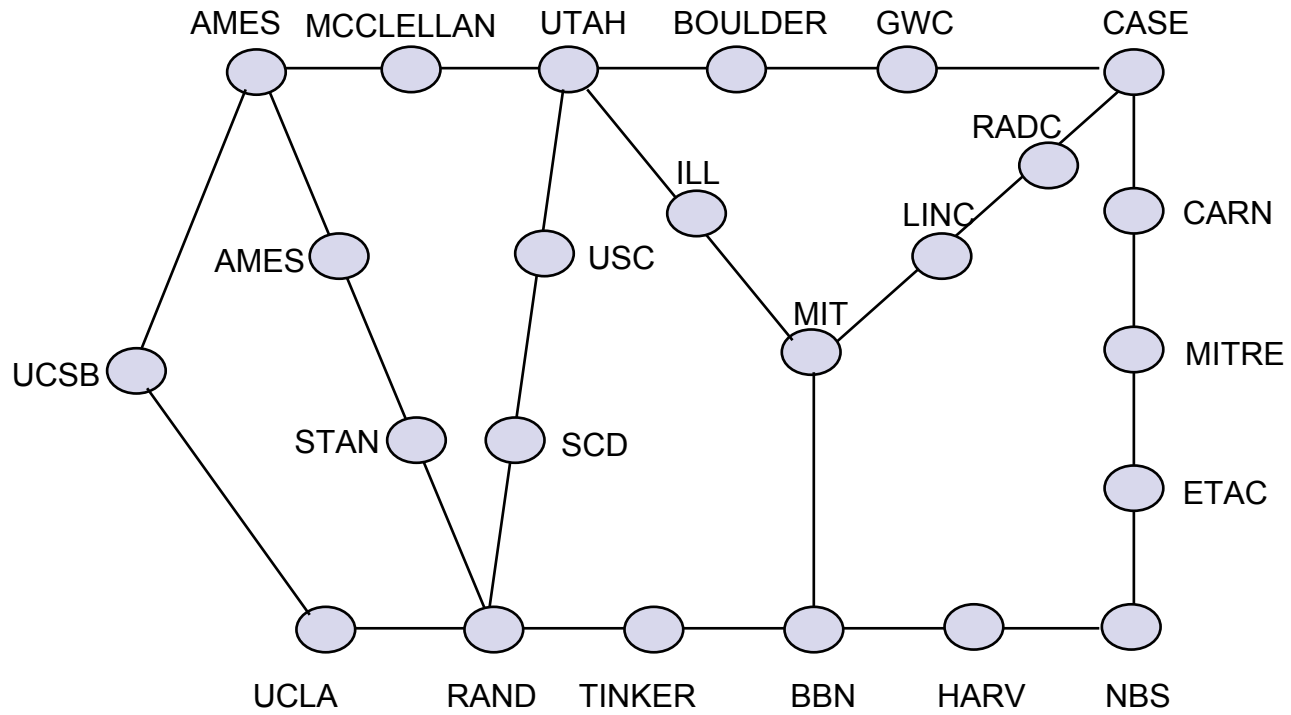




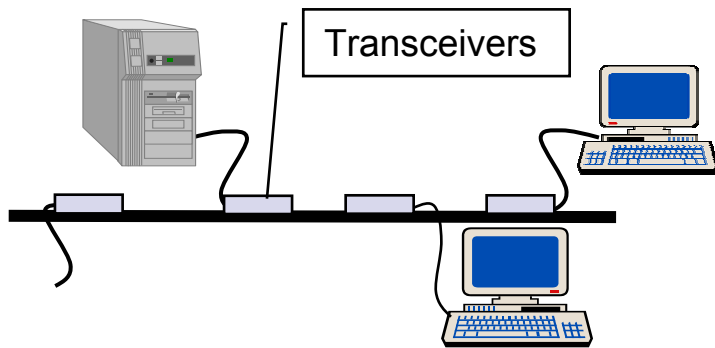




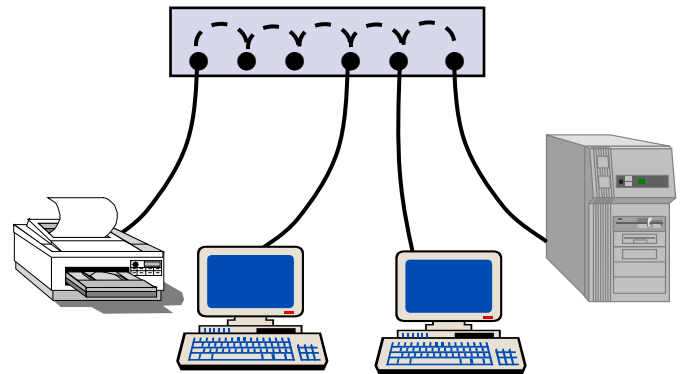
PS = packet switch
H = host

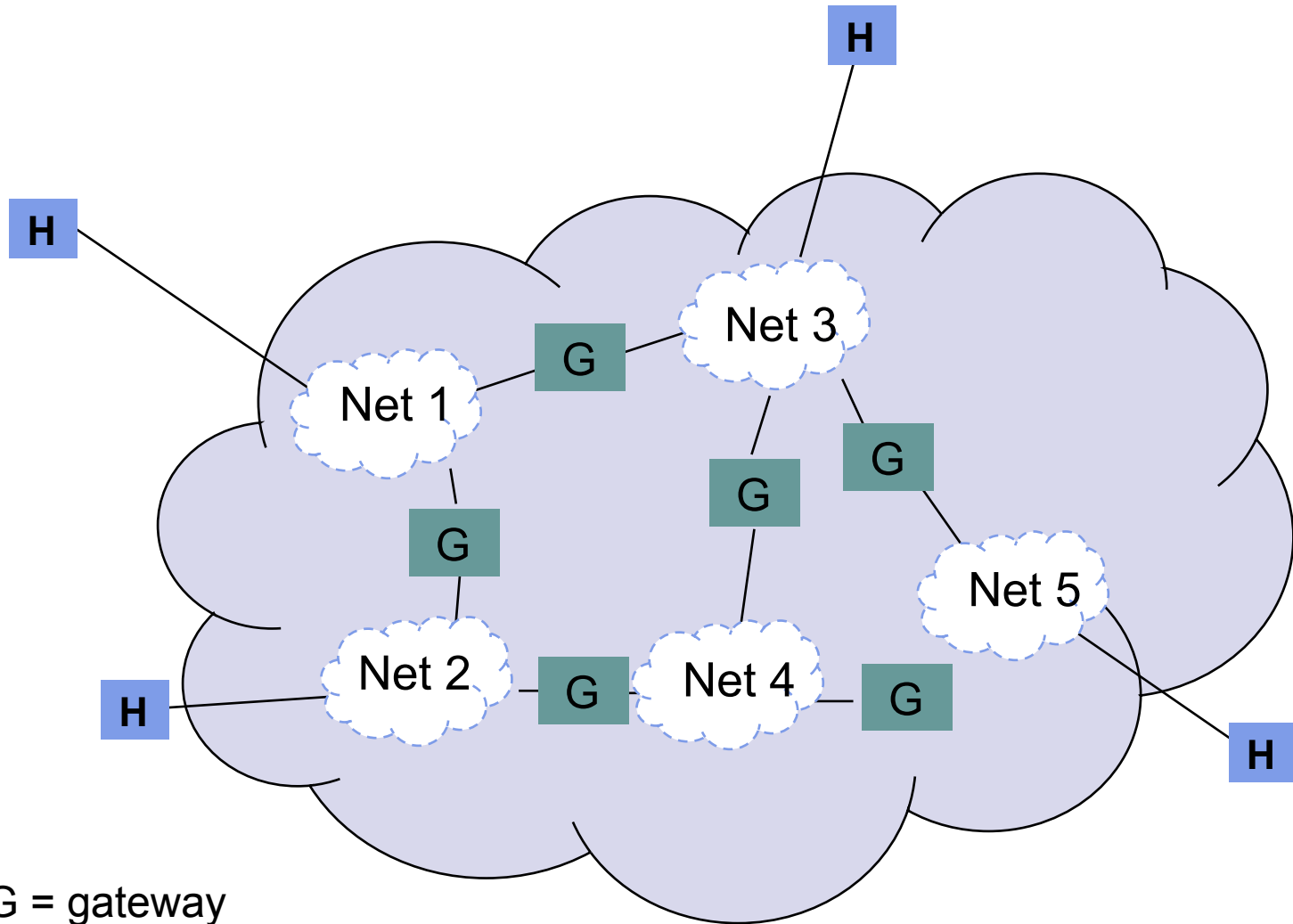


(a)

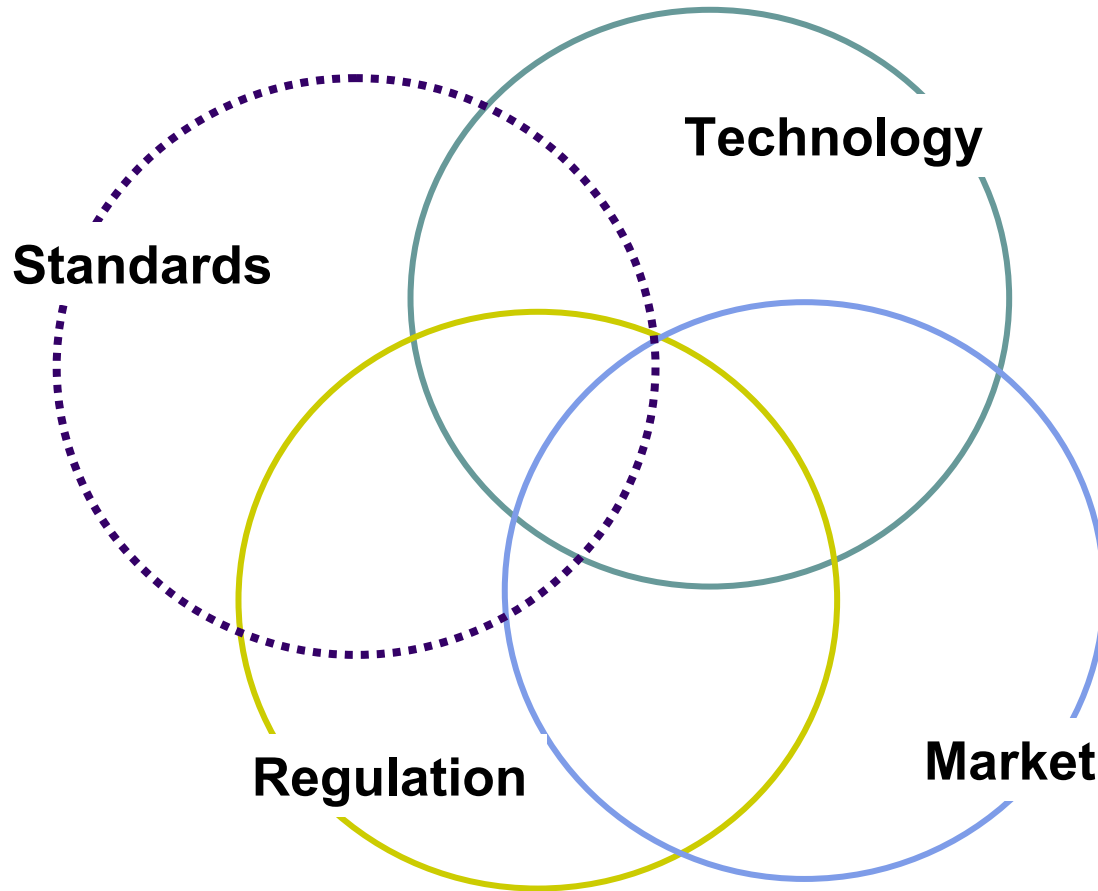


(b)

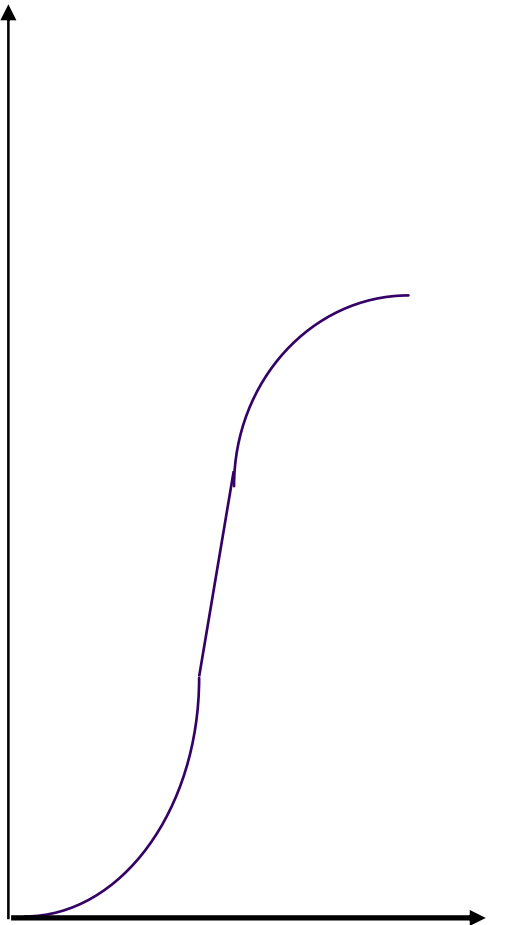




G = gateway
H = host

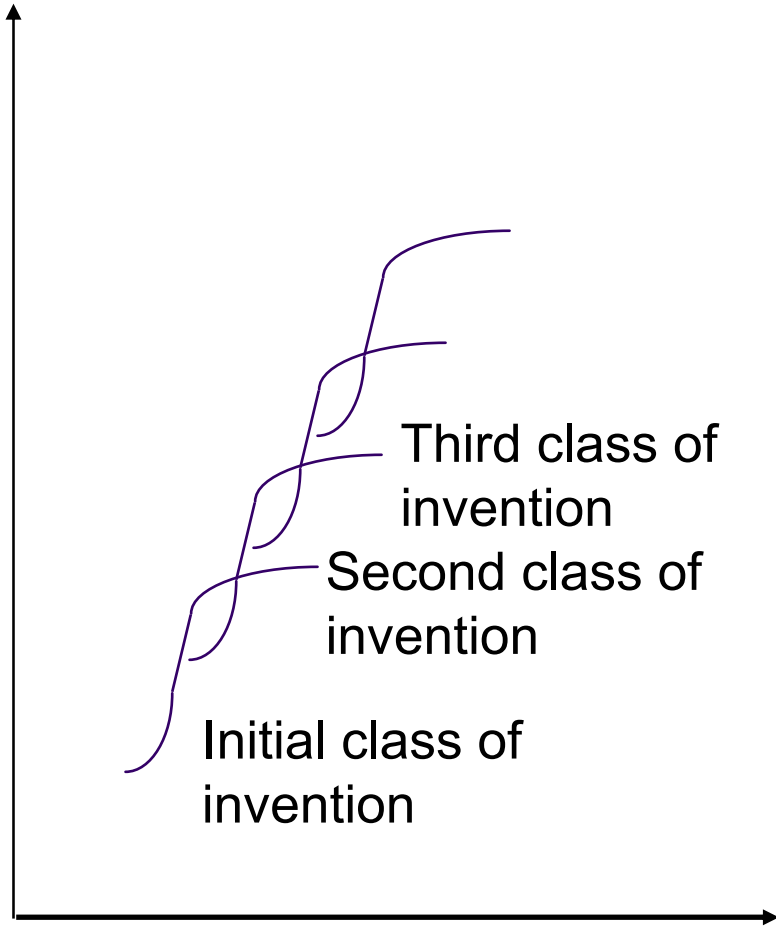


Capability



(a)

Capability



(b)

