

Network Concepts

Chapter 2

Any communication method runs in an order of a network. Telecommunication is bi-directional and interactive. Therefore every subscriber should be able to get connected to all other subscribers at all times. But at a given time only two subscribers can be in communication.

Take the example of a letter you posted recently. Now let's analyze its route towards the destined address.

First we put it in our nearby post box. Then the postman comes in a bicycle and collects it. He delivers it to the local area depot. The depot checks whether it has to be delivered to the same area or not. If it is not, then the letter is sent to the district depot by a van along with other letters to that district.

The district depot checks whether it belongs to their district or not. If it is not, the letter is taken to the provincial depot by a lorry along with the other letters for that province. If the letter is addressed to another country, then it is delivered to that particular country via airport. If the letter belongs to another province, then it will be sent by a container to that appropriate province.

Then the letter goes on the reverse process of the above procedure and will be delivered to your friend by a postman.

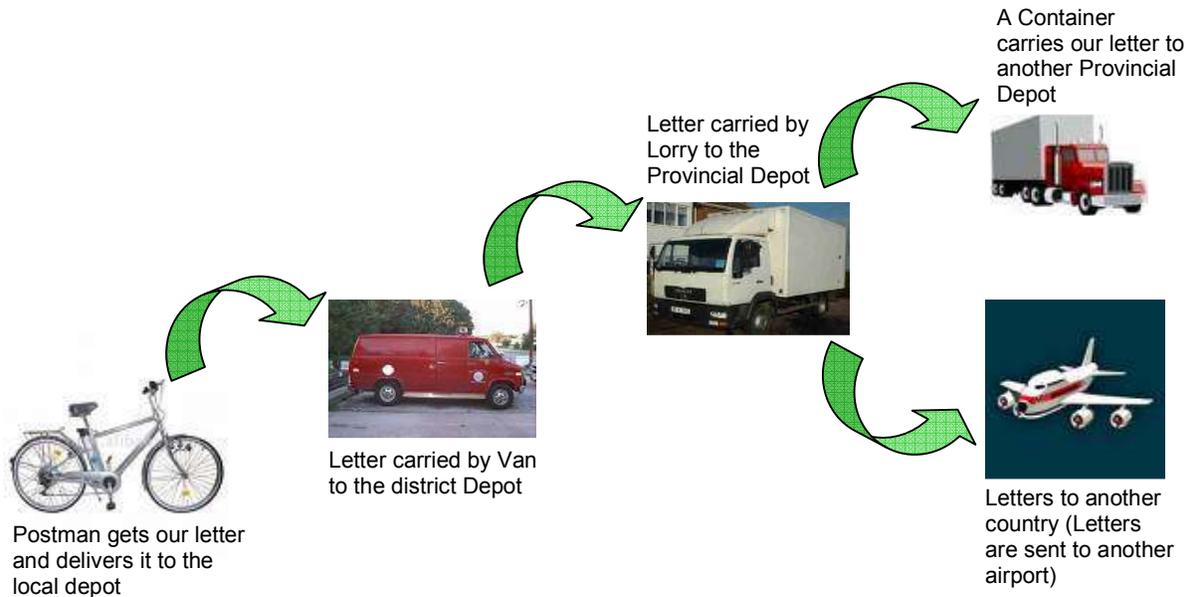


Figure 2.1

What you see is a postman taking your letter. What your friend sees is a postman handing over the letter. You or friend does not see the rest of the whole procedure. In the postal distribution network there are three types of depots in three different levels. Each level checks whether the letter will stay in its level, otherwise the letter will get transferred to the next level.

There are three types of domestic depots. The last depot can be an international depot. A telephone network works in the same way. Similar to a postal network, a telephone network will consist of four types of switching hierarchical levels. That is,

- I. Primary
- II. Secondary
- III. Tertiary
- IV. International Gateway

These types of switching are similar to the depot levels in figure 2.1. For example subscribers get connected using two copper wires. The postman who comes to take letters is doing the same thing. He connects us with the Postal Network. Likewise, using two copper wires a certain subscriber gets connected with the entire telephone network system.

As can be seen in figure 2.1, primary switching takes place at an early level in transmission. That is when a person wants to talk with another person in the same area. The exchange connects both subscribers by switching both connections within the exchange. It is like a letter from your friend to a friend in the same town.

Secondary switching is for local area networks. In another word when a subscriber A wants to connect with a subscriber B in another area, both these subs have to be connected by secondary switching. The exchange checks whether sub B is in that particular area or not. If not, then it is switched and sent to another exchange by a trunk. This is like a letter from you to a friend in another district.

Tertiary switching is done when a connection between two provinces or an international connection is needed which is like a letter to a person in another province or another country. Figure 2.2 shows a diagram of a telephone network.

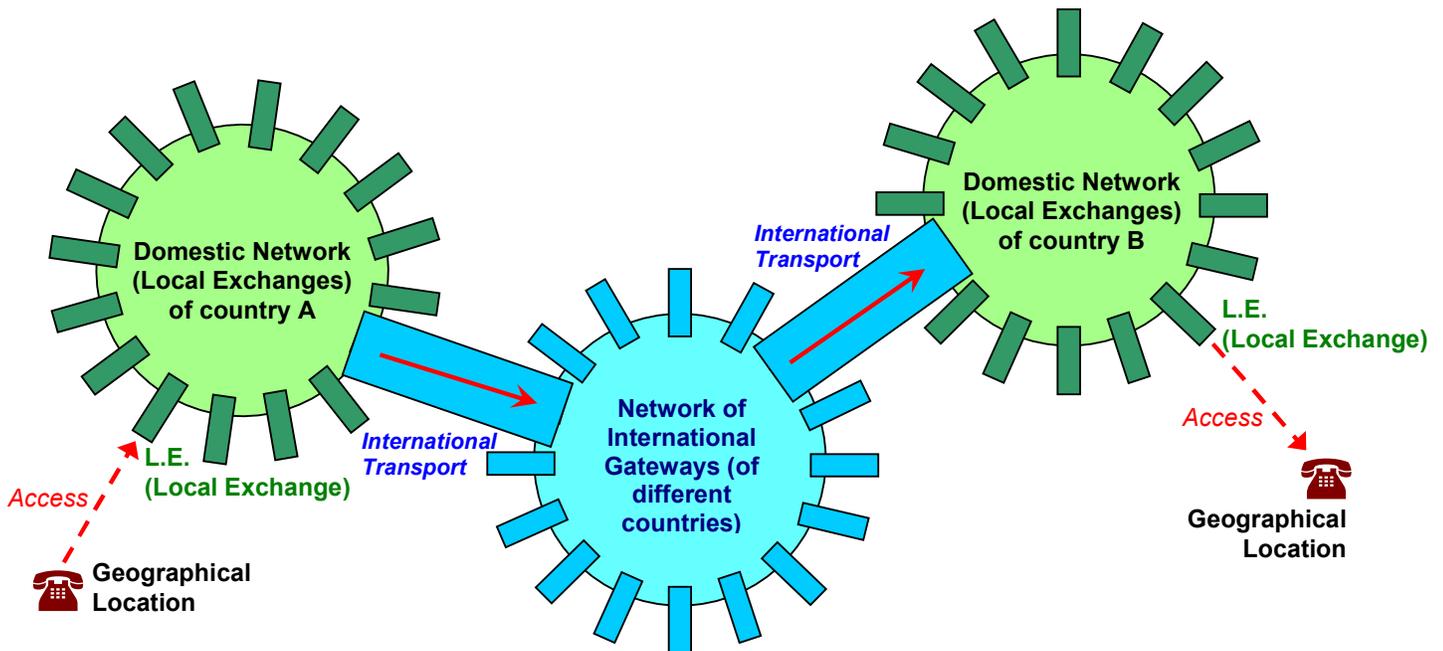


Figure 2.2