

# Chapter-5

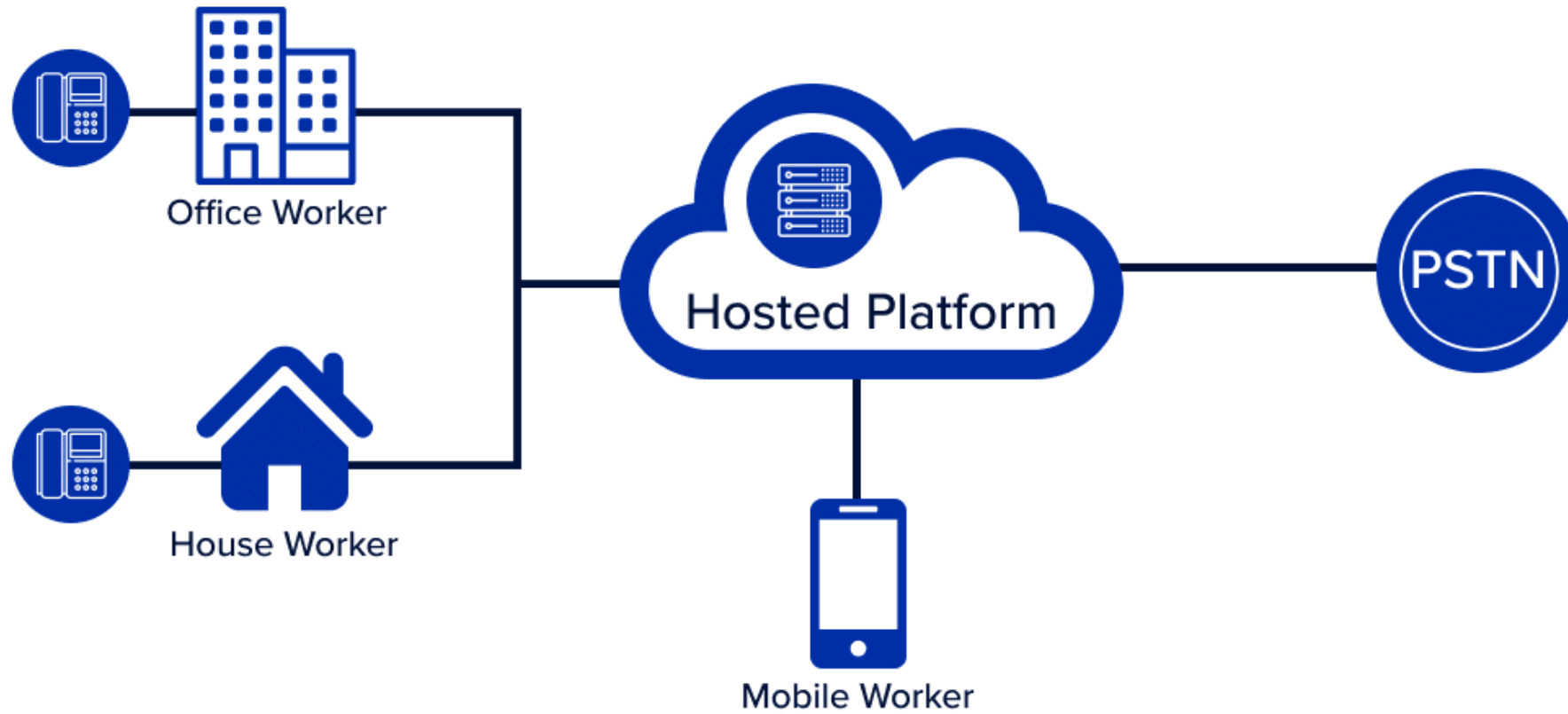
## (Features of Telephone System)

Presented By  
Hasan Murad Munna

# Telephony System:

- ❑ In essence, that's precisely what a telephony system is – technology that allows us to connect using audio signals from afar. Patented by Alexander Graham Bell's inventor in 1876, the telephone allowed people to transmit human speech electronically for the first time.
- ❑ Voice over IP converts your voice into a digital signal, compresses it, and sends it over the internet. A VoIP service provider sets up the call between all participants. On the receiving end, the digital data is then uncompressed into the sound that you hear through your handset or speakerphone.

## How Hosted Telephony Works



# Modern Telephone Handset Transmitter and receiver:

Microphone in telephony is regarded as transmitter. It is a transducer, which converts sound energy into electrical energy. There are different types of transmitters but carbon granules transmitter is the most widely used in the handset of the modern telephony. We will discuss the carbon granule transmitter only. It is based on the principle that the resistance of carbon granules is inversely proportional to pressure. The constructional details of the carbon transmitter, is illustrated in the figure.

It is the property of carbon that its resistance varies with pressure. The carbon transmitter does not produce any e.m.f. but only change its resistance with the changing pressure.

Carbon granules are placed between two electrodes in an insulated chamber. One electrode is fixed to the back of the chamber while the other electrode is attached with the movable diaphragm. The two electrodes are connected with the battery. The transmitter offers an electrical resistance to the flow of current, which is the resistance of the carbon granules. When the diaphragm moves inward and outward, due to sound pressure, the pressure on the carbon granules also changes. Thus the resistance of the carbon granules also varies with the changing pressure and hence the current flow between the two electrodes also varies. A current variation, corresponding to the sound pressure.

