

Types of Internet Connection

Dial-up Analog Connection

- In the past, the internet is connected by the dial-up lines
- The dial-up line uses [PSTN \(Public Switched Telephone Network\)](#).
- It is the most inexpensive form of the internet connection, apart from it, its speed is also very slow from 28 Kbps to 56 Kbps.
- It requires a modem to convert digital signal to analog and vice versa.

ISDN

- ISDN stands for Integrated Service Digital Network
- ISDN is a set of international communication standards designed in 1980 and improved in the 1990s.
- It is a digital network to transmit voice, image, video, and text over the existing circuit-switched PSTN telephone network.
- It provides data rate at 64kbps
- Broadband ISDN uses fiber optic cable

DSL (Digital Subscriber Line)

- In a DSL internet connection, both voice and internet data can flow over the same telephone line at the same time.
- No dialing is required
- **ADSL (Asymmetric Digital Subscriber Line):** In this internet connection downloading speed is considerably faster than the uploading speed.
- It is mostly used at home because at home we download more as compare to upload.

- **SDSL (Symmetric Digital Subscriber Line):** In SDSL connection, Download and upload speed are equal. It is typically used in businesses.
- **VDSL (Very high bit-rate Digital Subscriber Line):** it is the fastest form of the DSL. It is fast because, in its line, copper wire is used.
- download speed varies from 5Mbps to 100 Mbps.

Cable Internet Connection

- Broadband Cable is typically provided by the same provider that provides cable television to its customers
- Here we use cable modem/wifi router combo
- Some of the channel space used for download transmission and some of the channel space is used for upward transmission.
- The data rate is about 20 Mbps

Fiber

- A fiber internet connection provides the fastest internet speed today. It can provide download and upload speed of up to 1000 Mbps.
- It is not effected by outside electromagnetic interaction.
- It can be transferred long distance without repeater
- Maintenance is difficult

Satellite

- In rural area satellite internet will be the best option for high speed, it is a faster option than dial-up.
- At many places, its speed is less than the cable and DSL connection.

Cellular

- In this network, radio waves are used for transfer signal to and from the mobile phone.
- In cellular technology geographic area is divided into hexagonal cells, with it each cell having its tower and frequency slot.
- Generally, these cellular towers are connected through a wire or more specifically optical fiber cable. These optical fiber cables are laid under the ground or ocean for providing national or international connectivity.

- During the use of the internet; Smartphone transmits a signal in the form of electromagnetic waves.
- The electromagnetic wave produced by your phone is picked up by the tower and system on the tower converts them into high-frequency light pulses.
- These light pulses are further transferred to the base transceiver for further signal transferring.
- After that signal is transferred to the destination server, for what you searched, after that reverse process takes place.

Hotspot

- A hotspot is a technology which is relatively similar to the wifi. Hotspot provides internet access to users via WLAN in the specific area to their location.
- For illustration; router and modem are like hotspots which transfer the data in the form of a radiofrequency wave in the surrounding of its centralized position.
- Like Smartphone and mobile hotspots, here you can share your data with your friends.
- You can say that by the help of a hotspot we can create wifi.
- They are of two types: Passwords protected and free to uses.
- But beware that free hotspots are most of the time on the target of the hackers.