## 6.8 Explores the role of transport protocols in the Internet

Both TCP and UDP are protocols used for sending bits of data — known as packets — over the Internet. They both build on top of the Internet protocol. In other words, whether you are sending a packet via TCP or UDP, that packet is sent to an IP address. These packets are treated similarly, as they are forwarded from your computer to intermediary routers and on to the destination.

TCP and UDP are not the only protocols that work on top of IP. However, they are the most widely used. The widely used term "TCP/IP" refers to TCP over IP. UDP over IP could just as well be referred to as "UDP/IP", although this is not a common term.

- **User Datagram Protocol**: UDP is the no frills transport protocol for several well-known application layer protocols such as DNS and SNMP. UDP is simple and suitable for query-based communications and it is not connection oriented. UDP does not provide congestion control mechanism. UDP does not guarantee ordered delivery of data.

- **Transmission Control Protocol**: TCP provides a reliable in order delivery of data. It is a connection-oriented protocol and uses sequenced acknowledgment with retransmission of packets when necessary. TCP is used for applications such as web, and email
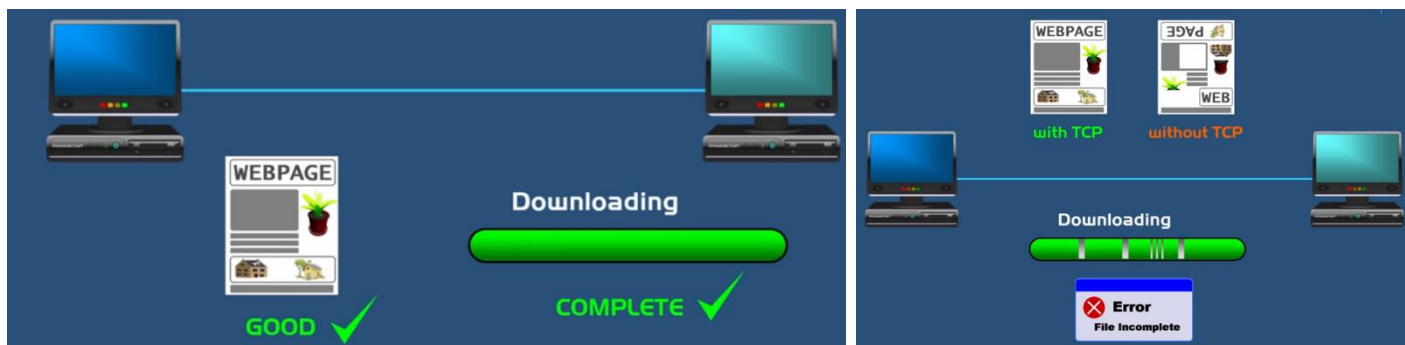
No.	TCP	UDP
1.	Connection Oriented Protocol	Connection-less Protocol
2.	Connection in byte stream	Connection in message stream
3.	It does't support multicasting and broadcasting	It supports broadcasting
4.	It provides error control and flow control	Error Control and Flow control is not provided
5.	Supports full Duplex	Does not support full Duplex
6.	TCP packet is called as Segment	UDP packet is called as User Datagram
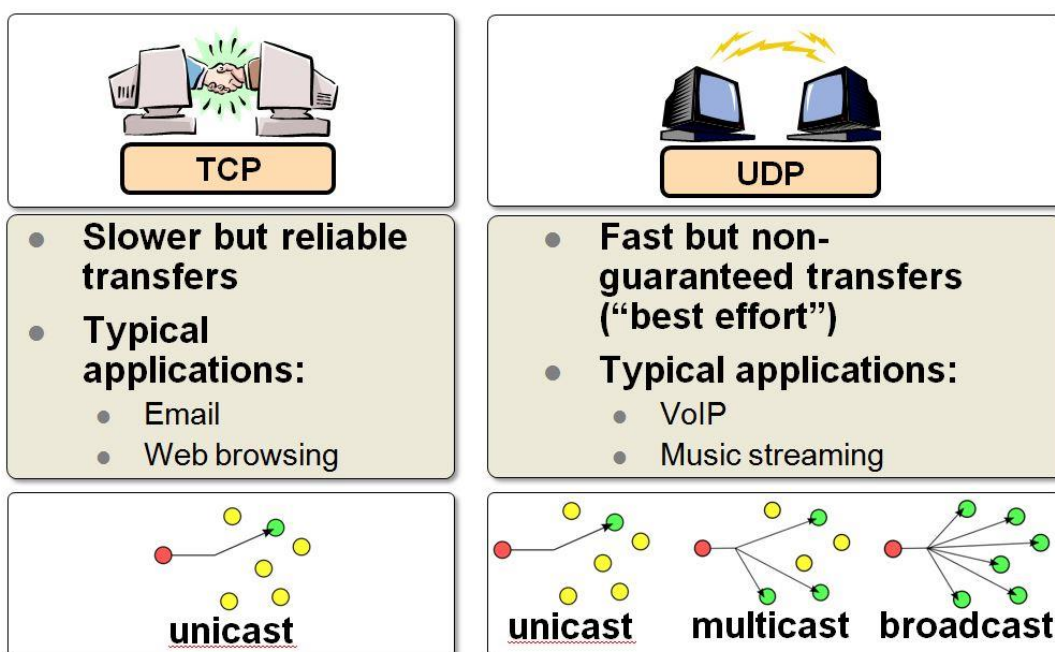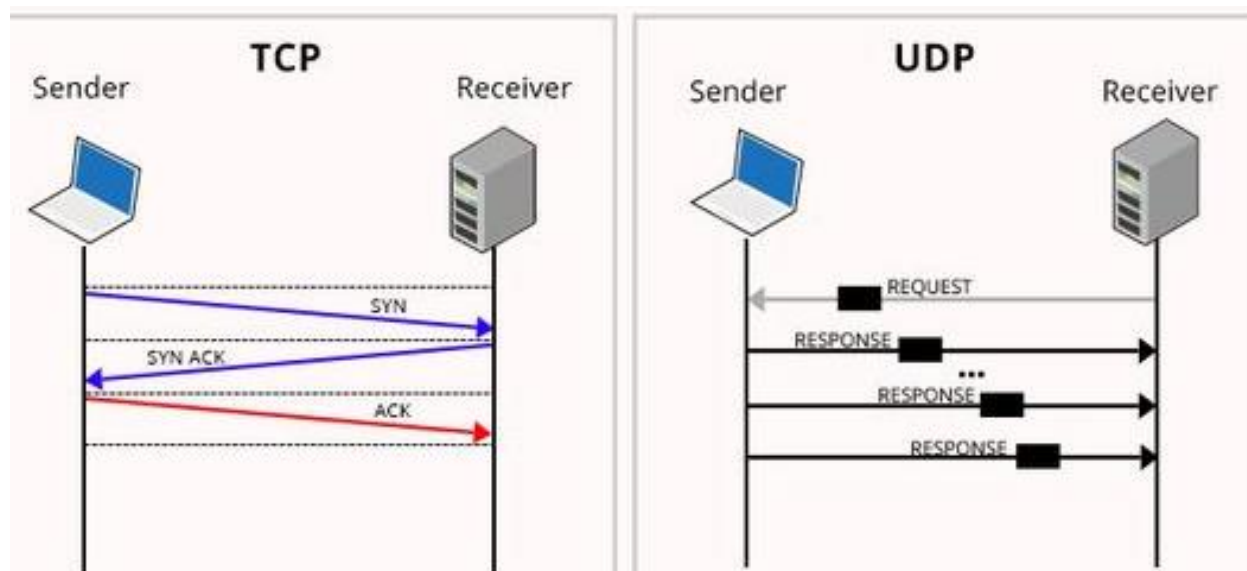
Voice over Internet Protocol (VoIP)

TCP – The communication between two computers needs to be "good" and reliable, to guarantee that the data is received correctly.

Reference

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