ALBUS SECURITY

Transport Layer Protocols

TCP (Transmission Control Protocol):

1. TCP is like a careful messenger who likes to establish a connection before delivering a message and closes the connection after delivering it. It's a connection-oriented protocol.
2. With TCP, you can trust that your files will reach their destination. It's a reliable protocol that guarantees the delivery of all the files.
3. If a packet gets lost during transmission, TCP can handle it. It uses error recovery techniques by assigning sequence numbers to each transmitted packet. If a packet is lost, the receiving device can detect it and request the sender to resend it.
4. TCP is a bit slower and heavier compared to UDP. It takes more time and resources to establish connections and ensure reliable delivery.
5. TCP has variable header lengths ranging from 20 to 60 bytes. However, it doesn't support broadcasting on the network.
6. TCP is commonly used by applications like HTTP, HTTPS, FTP, SMTP, Telnet, and SSH for their communication needs.

UDP (User Datagram Protocol):

1. UDP is like a speedy courier who doesn't bother with establishing or managing connections. It's a connectionless-oriented protocol and often used in broadcast networking.

2. Unlike TCP, UDP doesn't provide a guarantee for delivering all packets. It doesn't have fancy mechanisms for error checking or sequencing. It's more straightforward.
3. If a packet is lost in UDP, there is no automatic retransmission. It doesn't have built-in support for recovering lost packets.
4. UDP is faster and lighter in terms of overhead compared to TCP. It has a simple 8-byte header length.
5. UDP is used in applications like DNS, DHCP, TFTP, and VOIP, where simplicity and speed are prioritized over reliability.