Comparison Between UDP and TCP

Feature	UDP (User Datagram Protocol)	TCP (Transmission Control Protocol)
Connection Type	Connectionless	Connection-oriented
Reliability	Unreliable (no guarantee of delivery)	Reliable (ensures delivery with acknowledgments)
Ordering	No guaranteed order of delivery	Guarantees order of delivery
Speed	Faster due to no connection establishment overhead	Slower due to connection establishment and checks
Header Size	8 bytes	20-60 bytes
Flow Control	No flow control	Flow control through windowing
Use Cases	Suitable for applications like streaming, gaming	Suitable for applications requiring reliability, like web browsing and file transfers
Error Checking	Basic checksum for error checking	Comprehensive error checking with retransmissions

8 Bytes

UDP Header	UDP Data

Source port 16 bits	Destination port 16 bits
Length 16 bits	Checksum 16 bits

TCP Header

32 bits

Bit 0   Bit 15   Bit 16   Bit 31

Source Port (16)		Destination Port (16)	
Sequence Number (32)			
Acknowledgment Number (32)			
Header Length (4)	Reserved (6)	Code Bits(6)	Window (16)
Checksum (16)		Urgent (16)	
Options			
Data			

20 Bytes