IP Header

- 4-bit version
- 4-bit header length
- 8-bit type of service (TOS)
- 16-bit total length (in bytes)
- 16-bit identification
- 8-bit time to live (TTL)
- 8-bit protocol
- 16-bit header checksum
- 32-bit source IP address
- 32-bit destination IP address
- options (if any)
- data

UDP Header

- 16-bit source port number
- 16-bit destination port number
- 16-bit UDP length
- 16-bit UDP checksum
- data (if any)

TCP Header

- 16-bit source port number
- 16-bit destination port number
- 32-bit sequence number
- 32-bit acknowledgment number
- 4-bit header length
- reserved (6 bits)
- 16-bit window size
- 16-bit TCP checksum
- 16-bit urgent pointer
- options (if any)
- data (if any)
TCP state transition diagram.