TCP: Transmission Control Protocol: ensure packets won’t miss. Reliable protocol, no data loss

TCP uses client server architecture.

UDP: User Datagram Protocol: packets might lose because of poor internet connection. Not a reliable protocol, data can be loss.

UDP uses pear to pear architecture.

Pear to Pear Connection: connection between two clients without servers in between. Fast, Real Time Data transfer.

WebRTC: A technology that uses UDP to make sure data/packets can transfer in real time.

Agoda/100ms: RTC sdk that uses WebRTC.

X: private ip, public ip

Y: private ip, public ip

Devices have to directly connect with each other(peer to peer)

They should know their public ip.

Turn/Ice server: these server gives public ip of devices requesting to router to the requested end.

X sent request to Turn/Ice server and give public ip of Y requesting to router in which Y is connected.

Signalling: X sent their private and public ip to Y and vice versa, this is called singnalling.

For Signalling server is neened, signalling can be done in 2-3 microsecond. Then server is no longer required till the session.

X ->SDPx Y

SDPy

SDP: Session Decription Protocols

Security Compliance Information

Encryption Parameters

Video Compression Rate

Video Encoding Formats

X-> server(signalling server)🡪Y

webRTC only works for P2P (only 2 user can communicate)

For Group Call:

SFU: Selective Forwarding Unit

All modern video chat apps are using this.

Reference:

[Video Calling UI Kit quickstart | Agora Docs](https://docs.agora.io/en/video-calling/get-started/get-started-uikit?platform=flutter)