

WebRTC on Mobile Edge Cloud

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Motivation

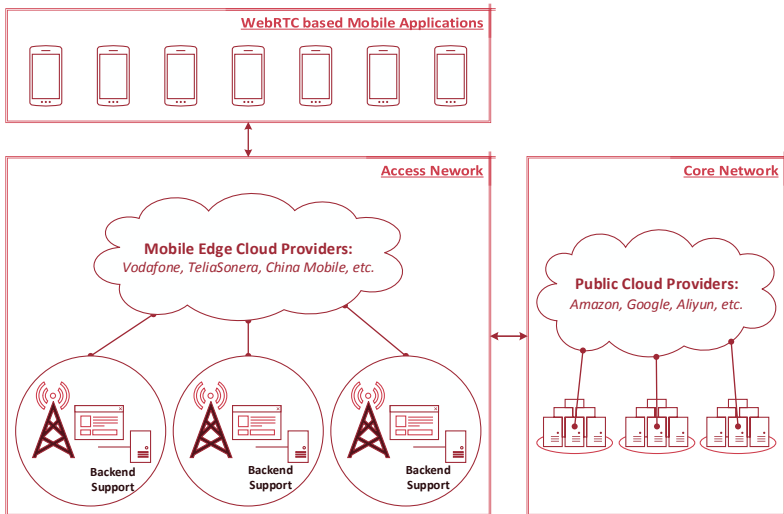
WebRTC

- 1 Open source plugin-free real-time communication in browsers
- 2 More than 1 billion unique cross platform endpoints
- 3 Peer-to-peer optimization as a service required

Mobile Edge Cloud

- 1 Deployed on access network layer
- 2 Low latency to mobile end-users
- 3 "Smart proxy" to process media stream prior to the forwarding

Concept



Summary

Exchange

real-time video, audio and data between browsers

Deploy

backend services on mobile edge cloud

Improve

user experience on WebRTC based mobile applications

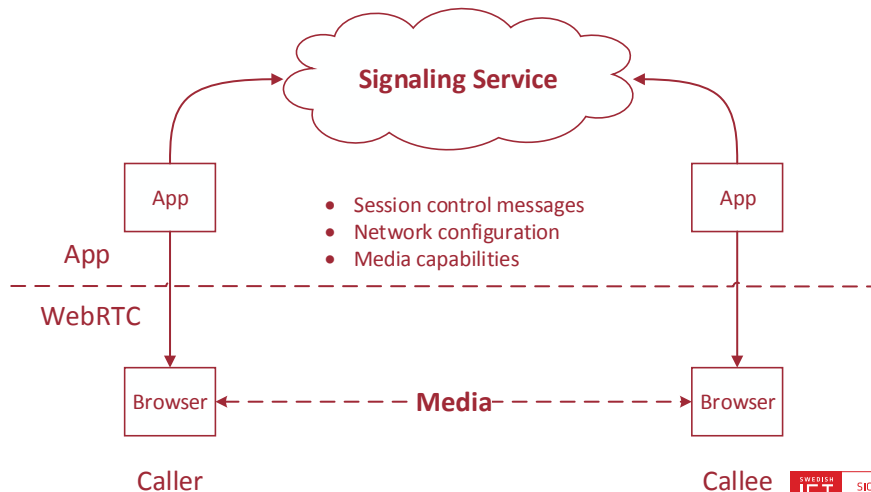
Reduce

bandwidth consumption for mobile network operators

Signaling Service (1/2)

- 1 Initiate a peer-to-peer connection
- 2 Exchange session description
- 3 Not specified by WebRTC

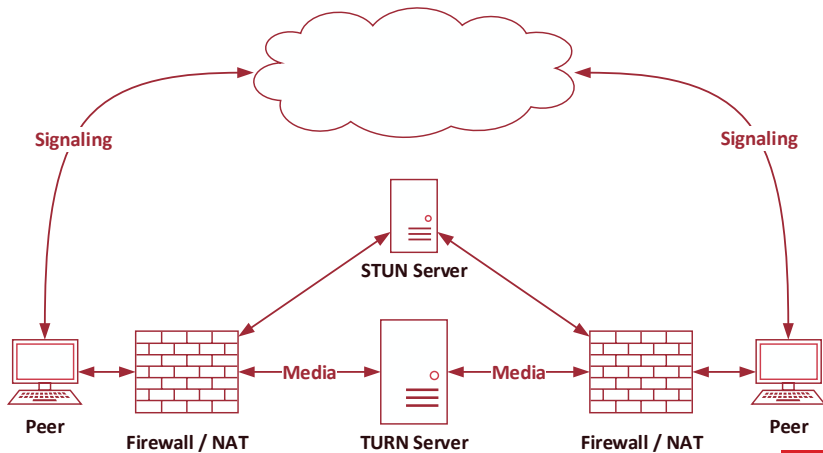
Signaling Service (2/2)



Firewall and NAT Traversal (1/2)

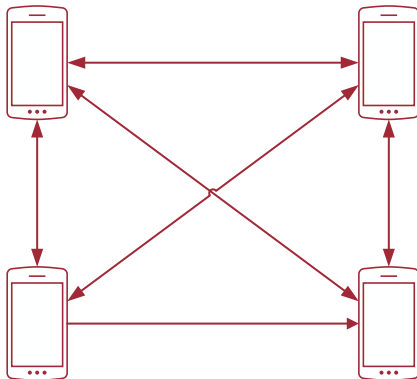
- 1 STUN: Session Traversal Utilities for NAT
- 2 TURN: Traversal Using Relays around NAT
- 3 ICE: Interactive Connectivity Establishment

Firewall and NAT Traversal (2/2)



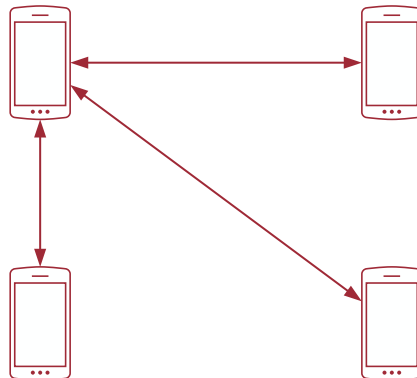
Mesh Network

Simple but inefficient.



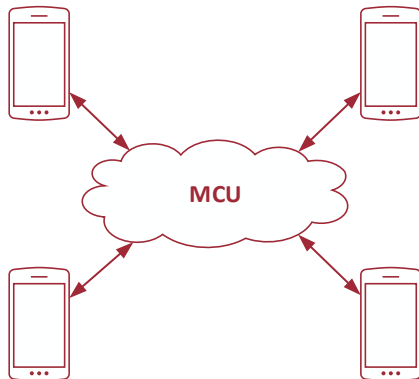
Star Network

Too much traffic on single peer.



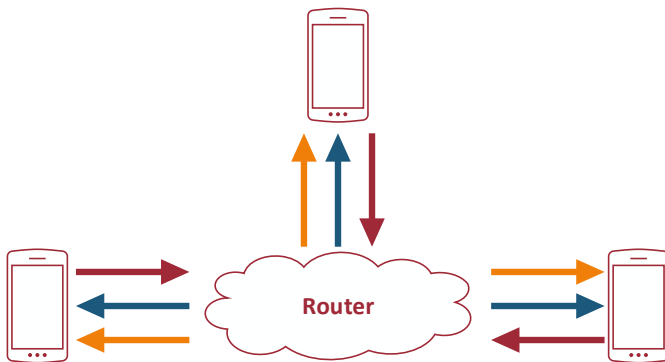
Mixer Solution

Multipoint Control Unit (MCU) - a central point transcodes to maintain a single one-to-one stream with each peer



Router Solution

Relay approach - a central point inspect and forward stream



Demo

Demo

The End

Thank you!