

WebRTC

From Zero to Hero



The Rolling Scopes, 20.02.2016
Gabriel Mičko





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About me

Gabriel Mičko

Docler Holding Front-end Developer Specialist
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mozilla



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Plugin free video conferencing in the browser

mozilla

WebRTC

Web Real-Time Communication

- **Voice calling, Video chat, P2P File sharing**
- ~~internal or external Plugin~~
- meant to be rich, high-quality
- browser, mobile platforms, and IoT devices
- UDP transport layer
- Secure (DTLS)



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WebRTC demo



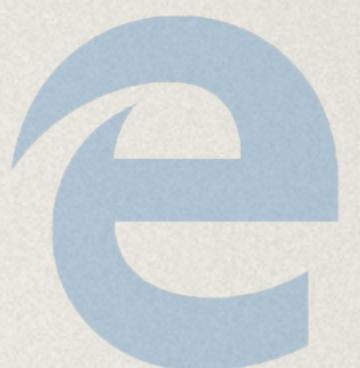
Who uses WebRTC

+10M Active users

- Facebook
- WhatsApp
- Hangout (P2P)

- Firefox Hello
- Appear.in
- Talky.io

Desktop browser support



Mobile browser support



Mac OSX - IOS Safari

Build native WebRTC apps that communicate with browser that supports the WebRTC standard, such as Chrome, Firefox and Bowser.

- focused on mobile platforms
- free and Open-Source
- cross-platform (IOS, Mac OS X, Android)

<http://openwebrtc.org>



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WebRTC code for developers

...but before

Session Description Protocol

- Dating back to 90's
- String-based business card
- Audio and video codecs
- Network lookup
- Computer data weight
- Easy transportation

```
<key>=<value>|n
```

WebRTC API

getUserMedia, which allows a web browser to access the camera and microphone and to capture media

RTCPeerConnection, which sets up audio/video calls

RTCDataChannel, which allow browsers to share data via peer-to-peer

What is ...

STUN, service for detecting your public IP

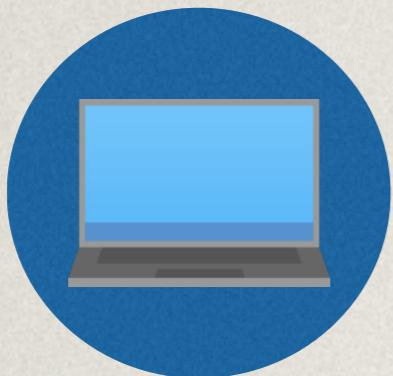
TURN, relay between 2 client if the P2P connection fails

ICE Candidate, provides information where the data is going to be exchanged

<https://github.com/coturn/rfc5766-turn-server/>

WebRTC connection

Gabriel

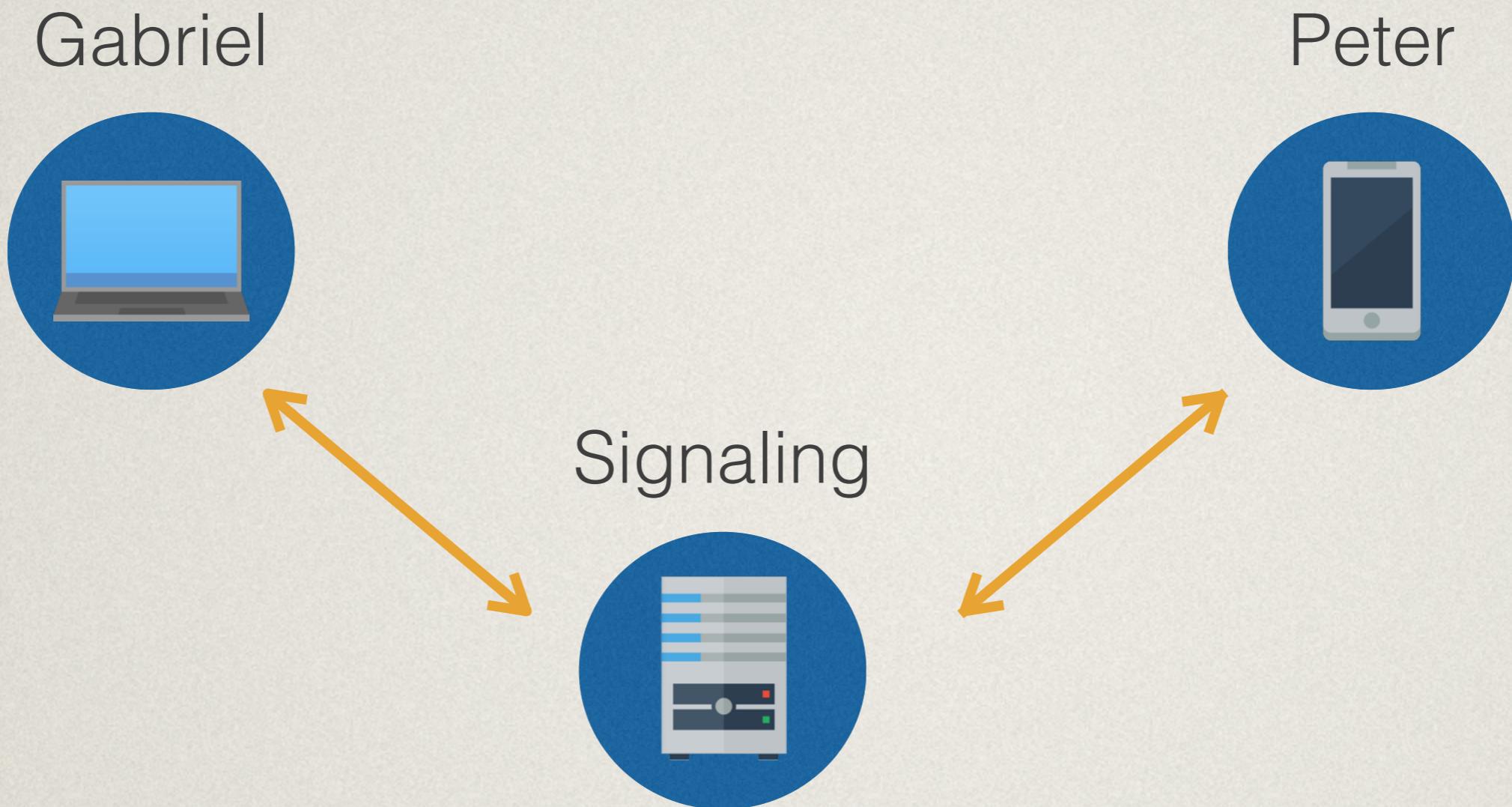


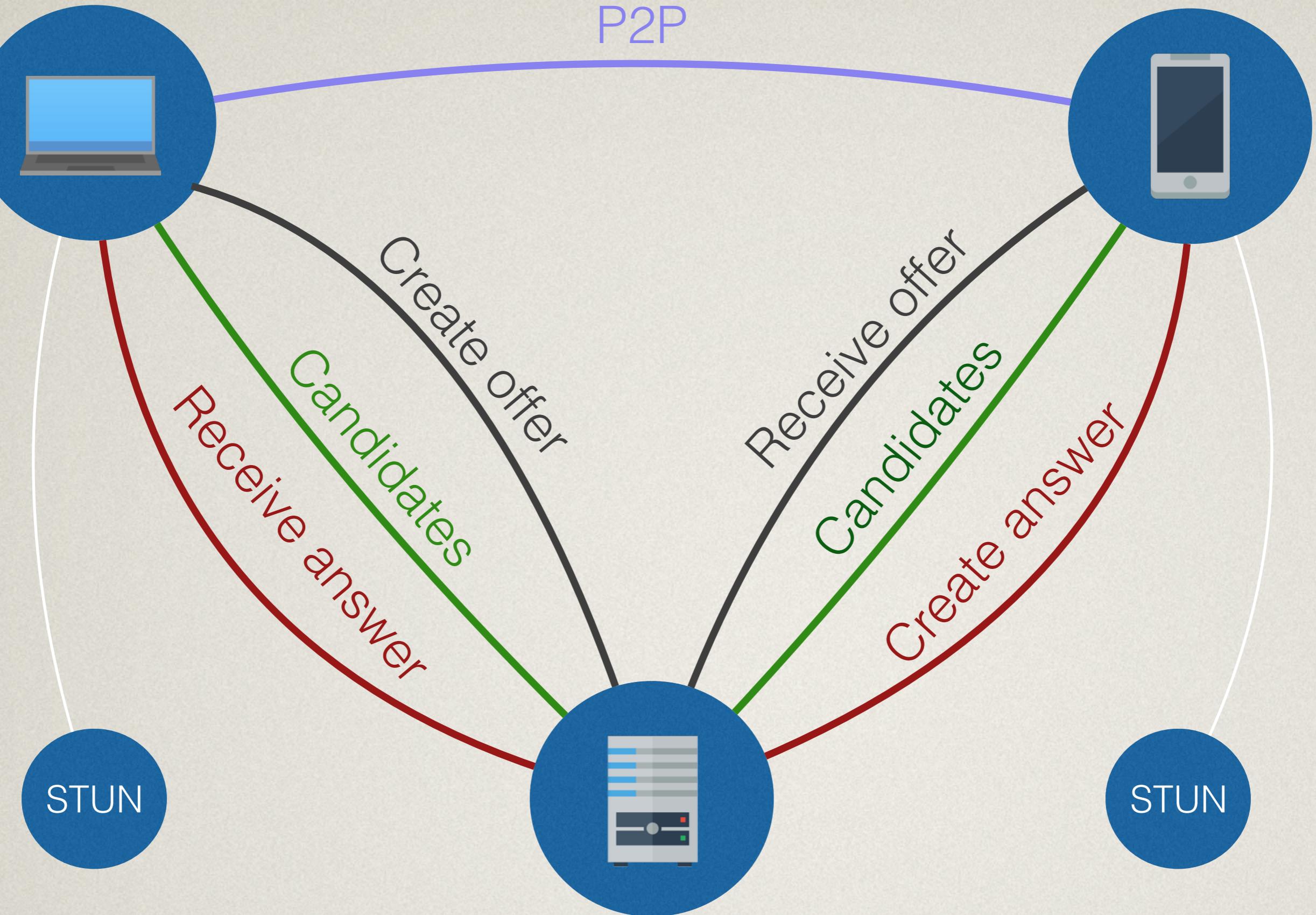
?

Peter



Login to signalling





Signalling is for sharing

- RTCPeerConnection offer
- RTCPeerConnection answer
- ICE candidates

Let's code!





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Huh . . .



Polyfill Adapter.js

AdapterJS

<https://github.com/Temasys/AdapterJS>



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WEBTORRENT

Streaming torrent client for node & the browser

<https://webtorrent.io/>

<https://github.com/feross/webtorrent>



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<http://google.com/starwars>

WebVR & WebRTC

ProxyControls.js
BETA

Connect input devices from your desktop to your mobile phone with WebRTC.

<https://proxy-controls.donmccurdy.com/demo>

WebRTC Multipoint control unit



<https://jitsi.org/Main/Download>
<https://janus.conf.meetecho.com/>
<http://lynckia.com/>

Alliance for Open Media

Focusing on developing next generation media formats, codecs and technologies in the public interest.

- Enough, lets go to standard
- Open
- Works for the web
- Fits to any modem, device and bandwidth
- Capable of streaming high quality real-time video

Amazon | Netflix | Microsoft | Intel | Cisco (Thor) | Mozilla (Daala) | Google (VP9)

<http://aomedia.org/>



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Object RTC

2015 -



<http://ortc.org>

News around WebRTC

- Canvas as the source of video stream
- Screen sharing
- Simulcast support
- Duplex audio



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Is WebRTC ready yet?

<http://iswebrtcreadyyet.com/>

<http://www.webrtc.org/>

<https://webrtcweekly.com>



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Thank you.



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Questions?

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