WebRTC
The simplified, hand wavy, fluffy version

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Interactive Voice and Video is in your browser today ...
Sort of ...

Yes, we can do interactive voice and video today, but it’s...
- Proprietary, no interoperability
- Dependant on 3rd Party Browser plug-ins or add-ons
- Not easy to deploy
Web storefronts offer personal shopper/instant help functionality.

The user is presented with a means to instantly video call a storefront customer care representative.

The customer care agent could be using legacy video phone/call center.
Architecture

Web Server

HTTP

JavaScript Application

Browser

SRTP

JavaScript Application

Browser
Architecture – Connection to Legacy VoIP

Web Server → GW to SIP → SIP Proxy

HTTP

JavaScript Application → Browser → SRTP
Security ....

- Some ways a bit like problem in SIP based communications
- Some ways a bit like HTTP / HTML security
- PITA to secure something where you download the applications from the attacker
Security 1

Web Server

HTML5

Web Browser

SRTP

Video Phone

Web Browser

Video Phone
Security 2

HTML5

Web Browser

RTP

Data Base
Security 3

Web Server

HTML5

Web Browser

Do you want to talk

Yes

SRTP
Identity

- Used to understand who is accessing the camera
- Used to understand who the encrypted media is from or to

(Thanks to EKR for figure)
RTCWeb is going to help choose

- Audio codecs (G.711 and perhaps opus)
- Video codecs (who knows but VP8 and H.264 get mentioned)
- Way to transport media (SRTP and perhaps RTP)
- Ways to transport p2p real time application data
  - This is for game moves etc. Might be SRTP over DTLS over UDP.
- Requirements for API to control media engines and GW to SIP
- Ways to deal with NAT / FW traversal (ICE, STUN, TURN)
  - Optimizations for using less UDP ports for media to speed up ICE
- Ways to key the media security (DTLS and / or / perhaps SDES)
- Ways to assert identity of who media is encrypted to
  - Hopefully we can support multiple identity protocols
Points of Overlap with CLUE

- We both wish AVT had one way to send RTP on single or small number of UDP flows
- Both have people bringing proposal to do things like negotiate video codec parameters without using SDP