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WebRTC, the day after

What's next for conversational services?

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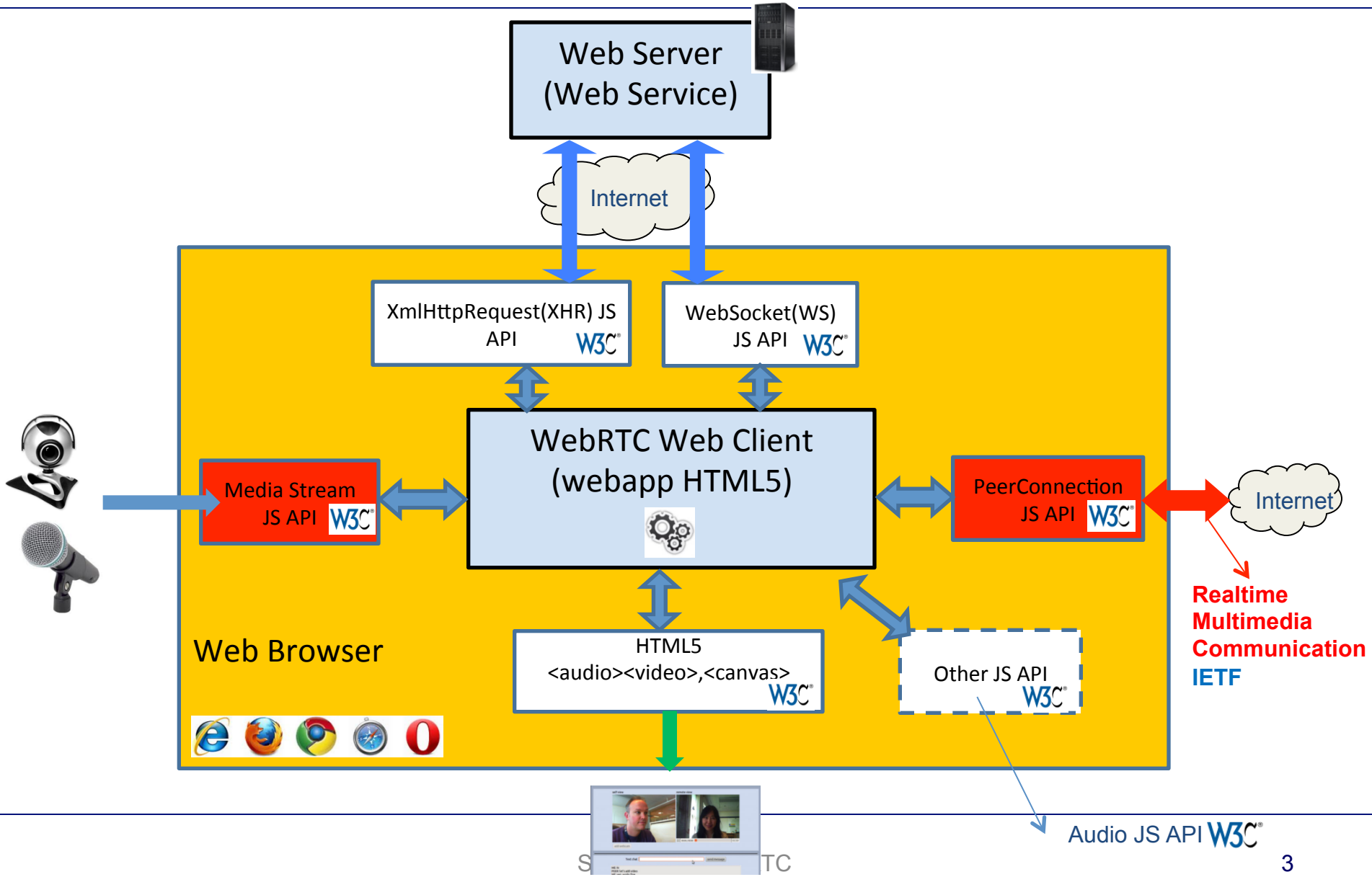
what is WebRTC?

- WebRTC enables “Real-Time Communications” through web browser via simple JavaScript APIs and HTML5 without any preinstalled plug-in

- Any device embedding a web browser such as smartphones, tablets, PCs, or connected TV can do voice, video and other forms of P2P data communications.

standardized W3C API inside browsers



browsers implementation

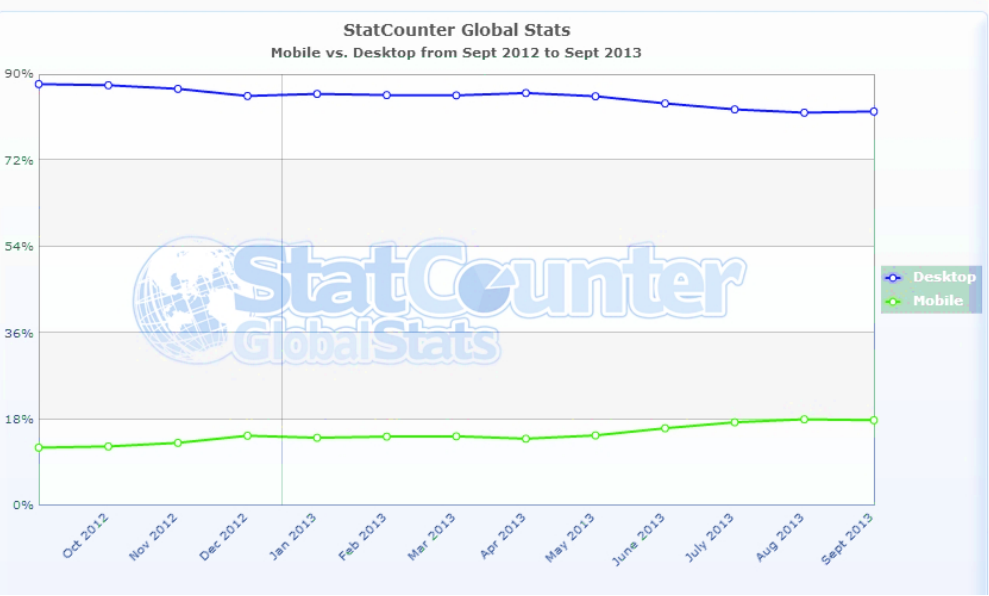
OS	Desktop OS					Android OS			Apple iOS	Windows Phone
Browser										
PeerConnection										
GetUserMedia										
Data channel										
MediaRecorder										
Audio quality										
Video quality										
Interoperability										

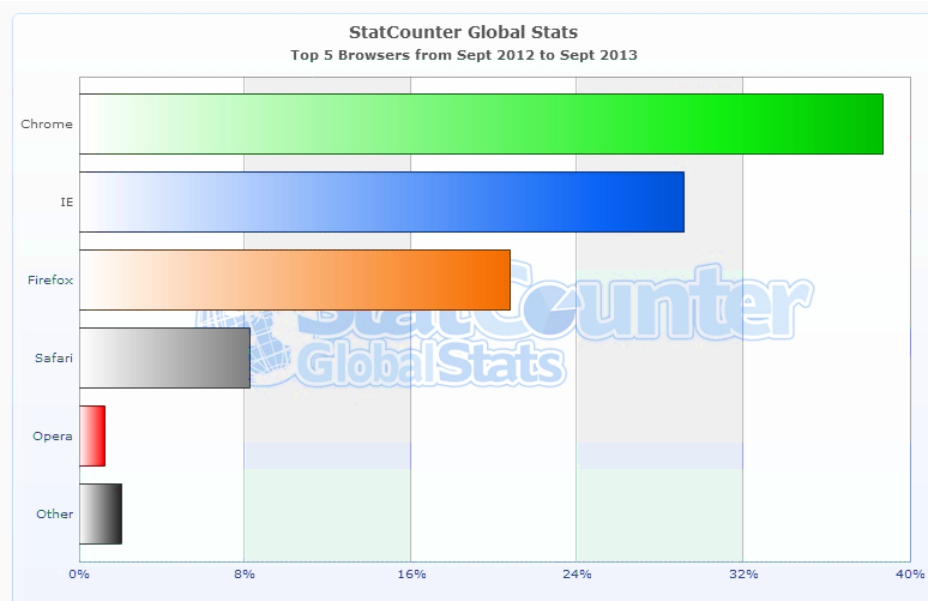
Not implemented

Partially implemented, or implemented but not sufficiently stable to support live services.

Usable (stable) implementation, but some minor details may be missing compared to specification

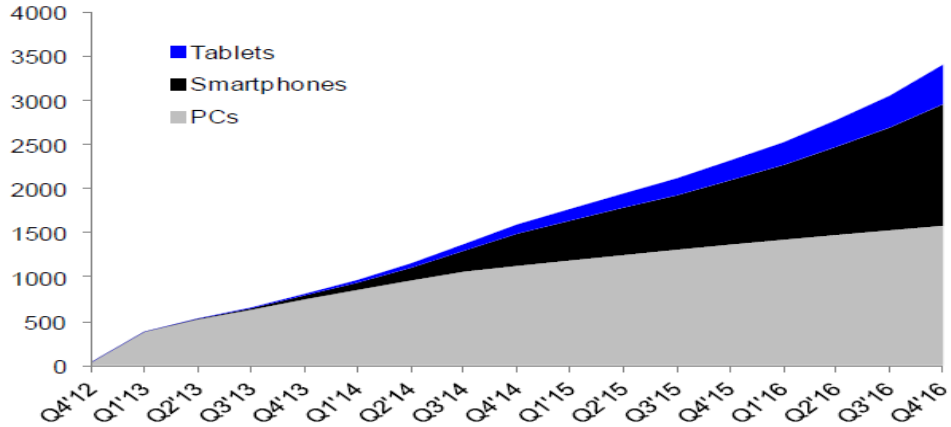
browser status & device support





Overall installed base of WebRTC-supporting devices

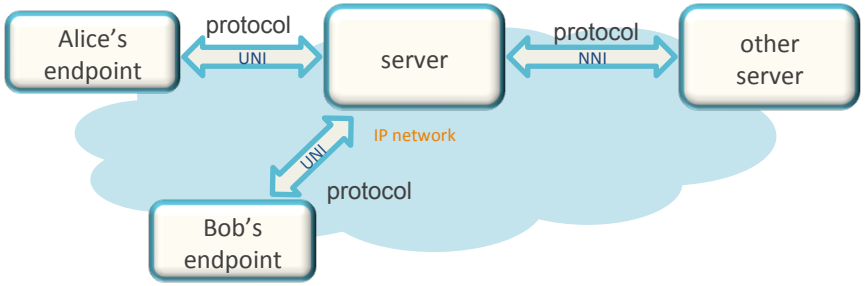
in million



Note: See full definitions for "WebRTC-supporting"
Source: Disruptive Analysis

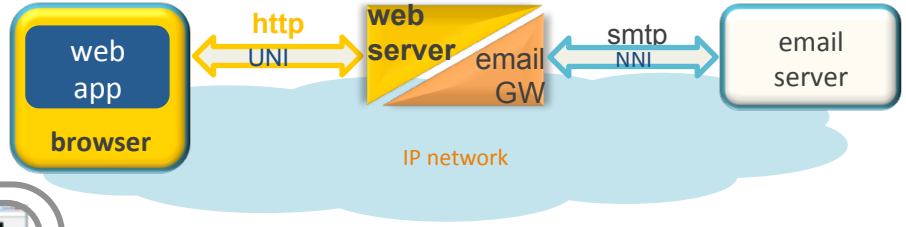
the long-lasting "webisation" trend

90ies ➔



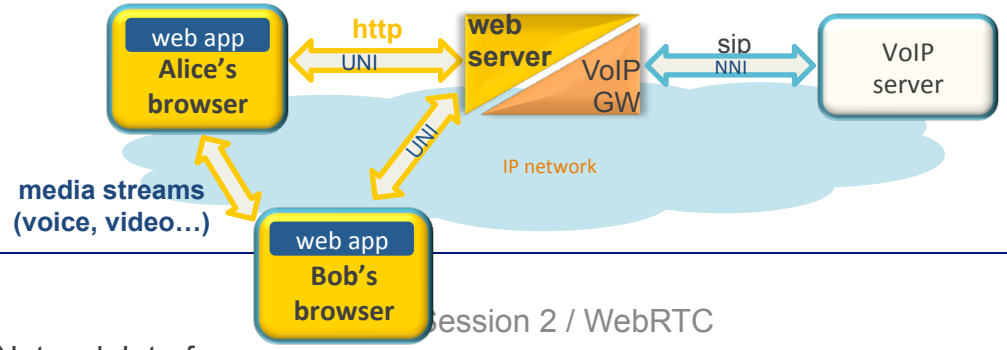
service	protocol	endpoint
email	pop3, imap4, smtp	email client
IM	xmpp, simple	IM client
VoIP	sip	hard/soft phone
web	http	web browser

2005, html/javascript disruption ➔ **WebApp / Browser paradigm** for data services



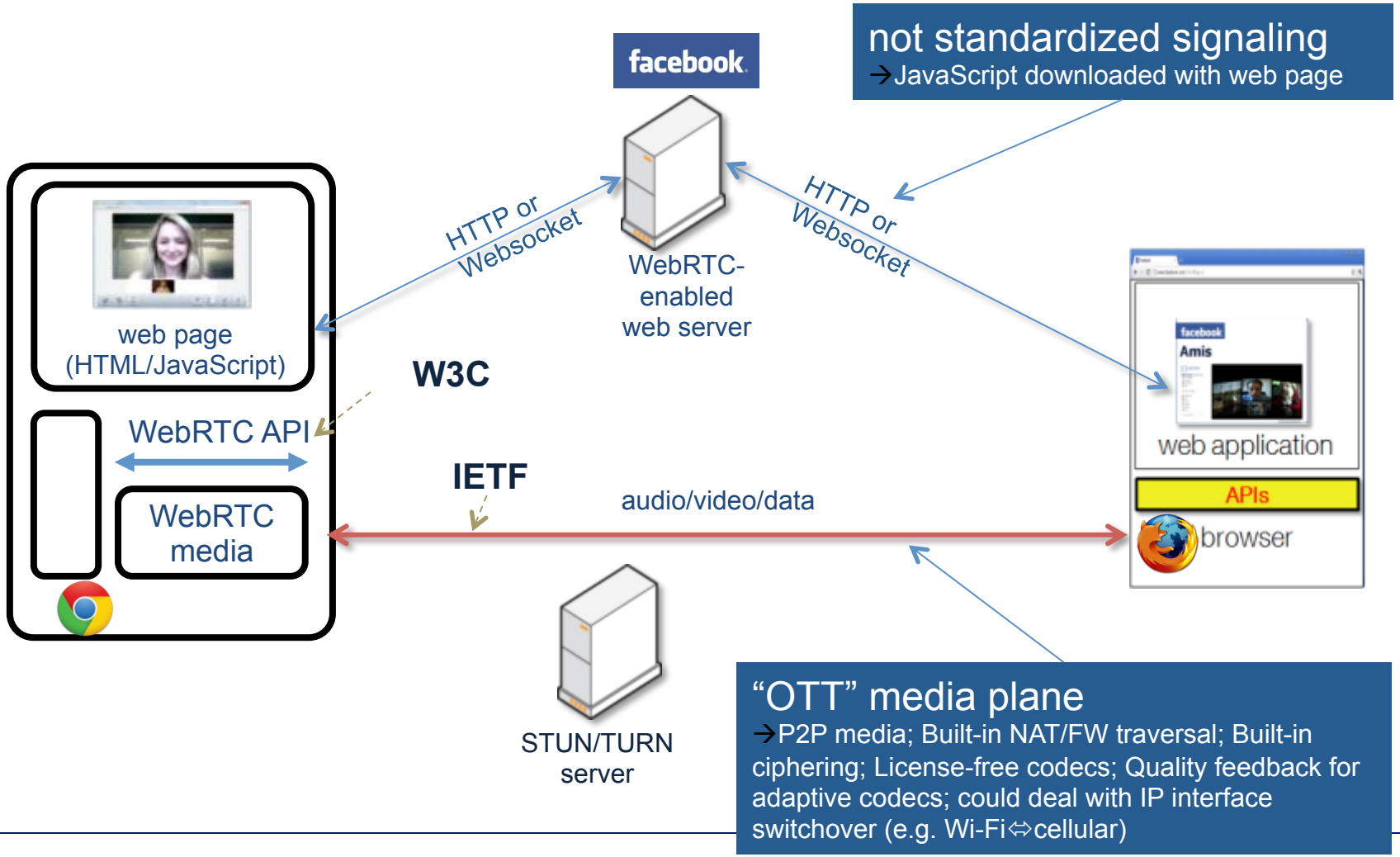
- services rely no more on protocols but on APIs, improved with HTML5 (e.g. websocket, local storage)
- communication between WebApp and web server is commoditized (http)

2012, webRTC ➔ **WebApp / Browser paradigm for real-time services**

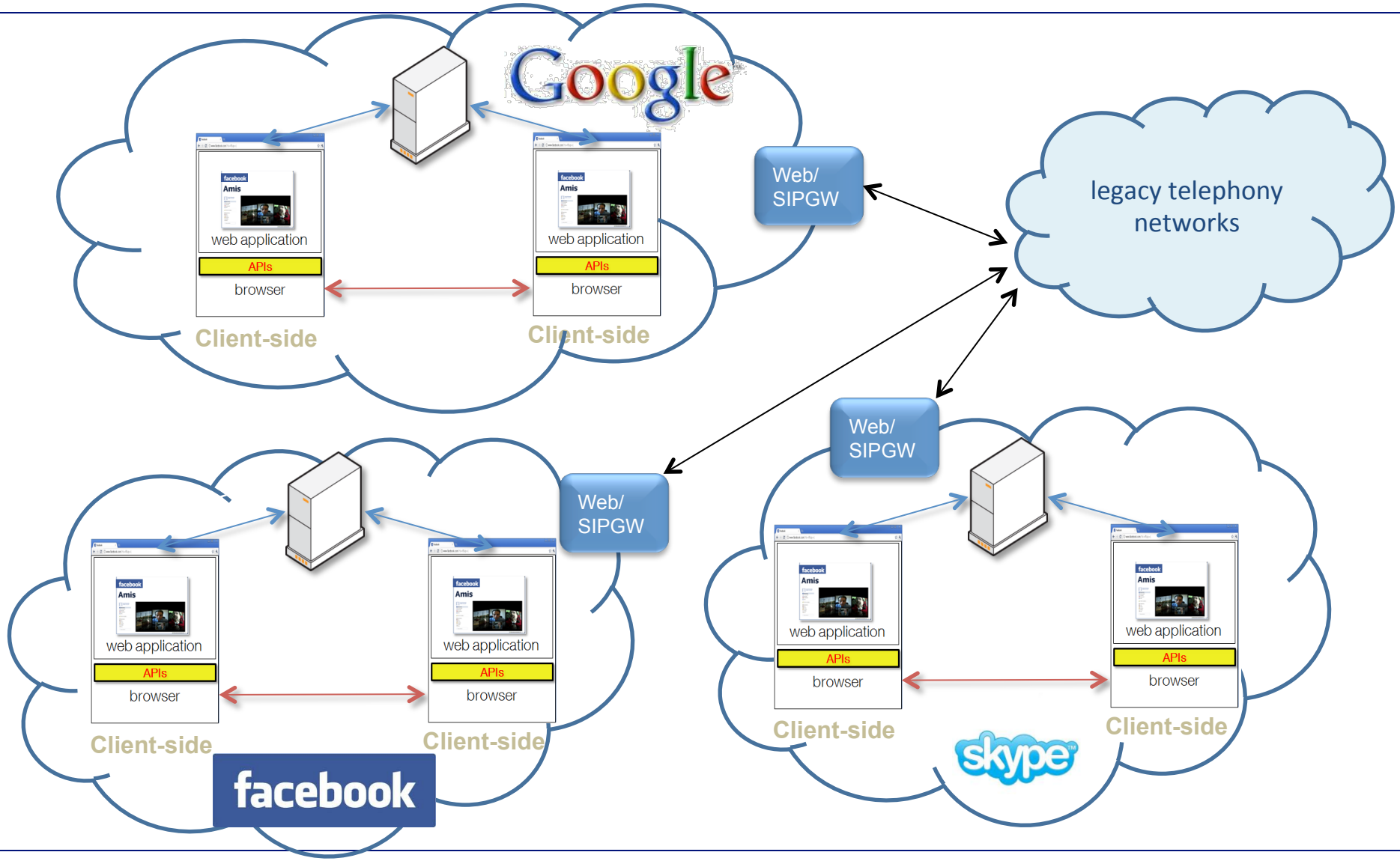


{U/N}NI = {User/Network}-Network Interface

proprietary control plane



non interconnected world



some issues in current services

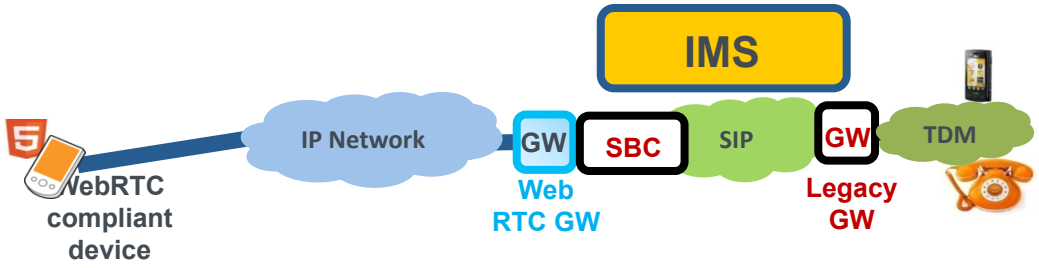
- feature-oriented standardization
  - initial service requirements sometimes outdated
  - non functional properties…
- many functional entities in the signaling path
  - often with stateful implementations
  - need of end to end control
    - devices, access network, CSCF, AS…
  - e.g. registration procedure
- tight coupling vs loose coupling

some issues in current services

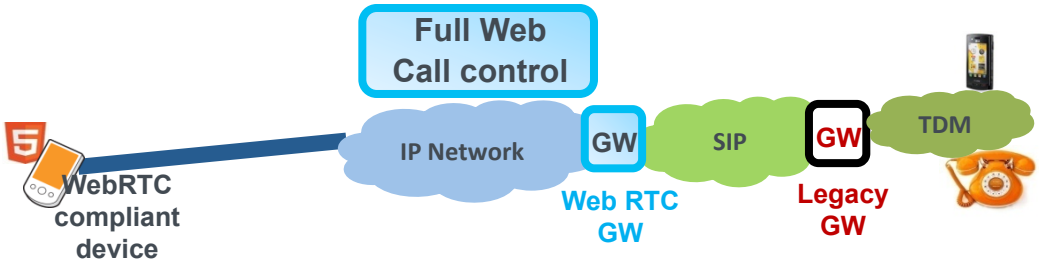
- some discrepancy between protocol and architecture choices
  - e.g. AS = B2BUA
  - tight coupling between service and protocol
- operator has to integrate multiple vendor's solutions
  - device, core, AS…
  - lack of control of the user interface
- cost in M€ and delays in years
  - difficult to test a new service on the market

architecture scenarios for telcos

- webRTC as a new access to IMS

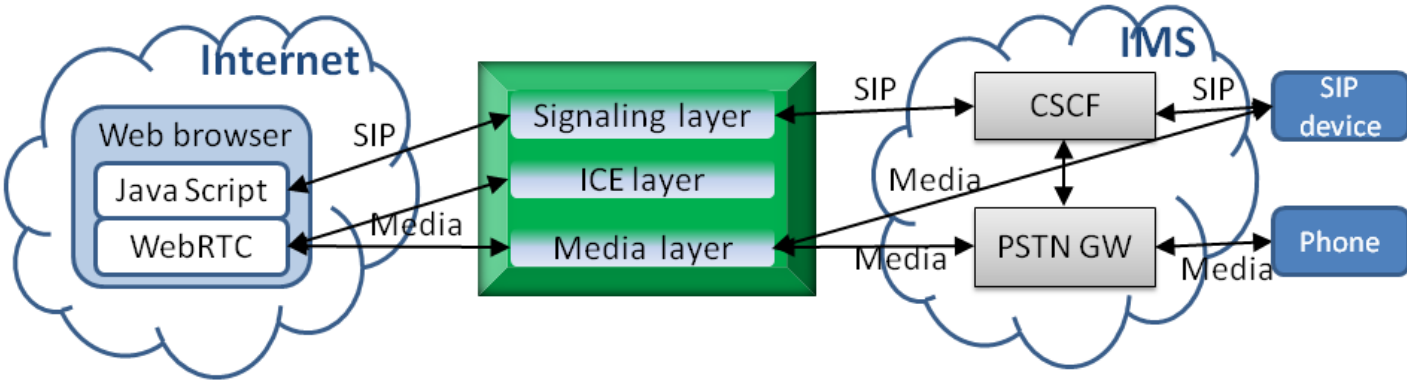


- webRTC for full web service



IMS extension approach

- ongoing work at 3GPP
- standardization of a webRTC/IMS gateway
  - signaling
  - media



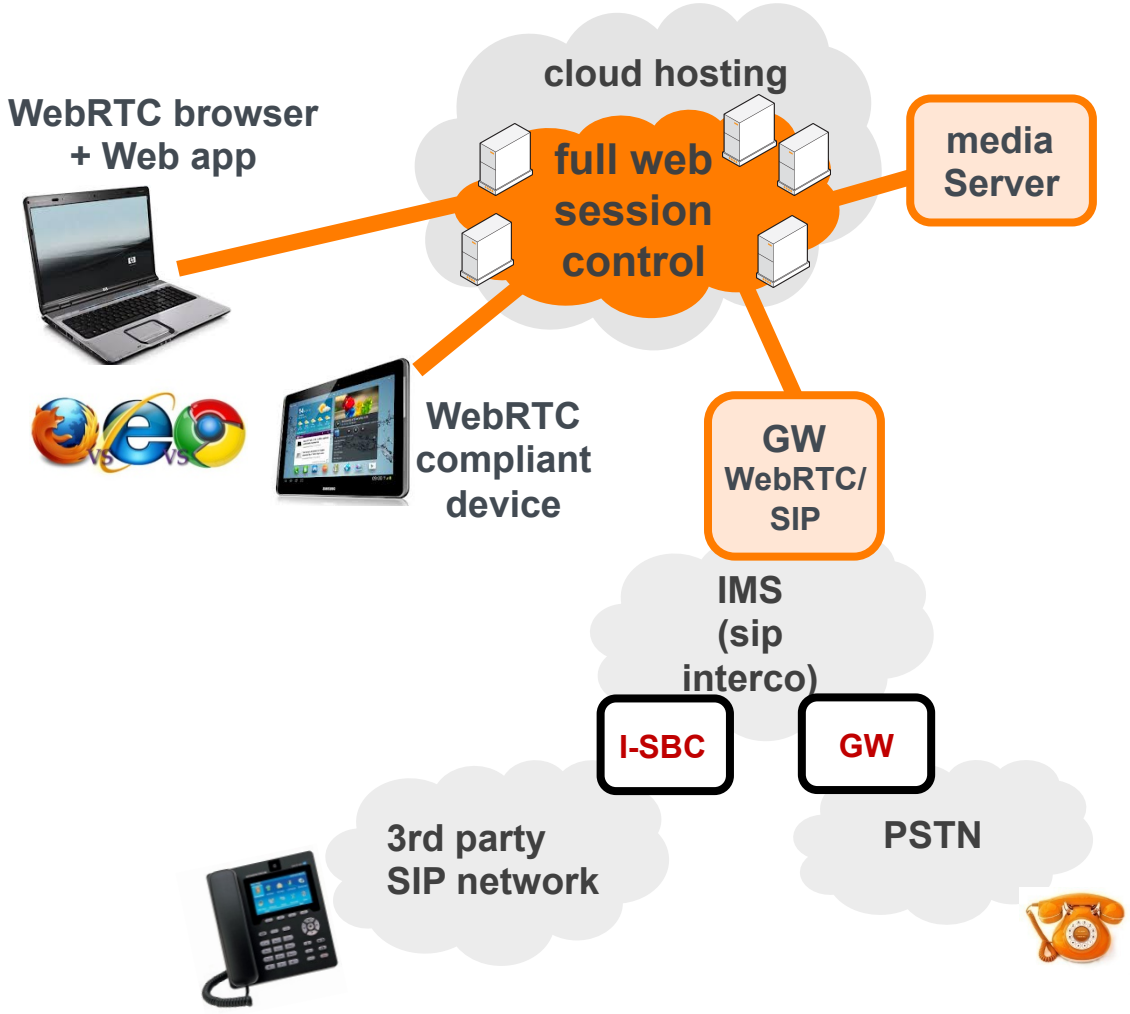
requirements for a full web approach

- loose coupling, extensibility, modularity
- security
- cost-driven
- self organizing
- mutualization between services
- …

➔Service Oriented Computing

➔Platform as a Service

possible architecture for telcos



conclusion

- new shift in conversational services, based on web architecture
- 3 mid-term disruptions for conversational services
  - move towards IT evolutions (i.e. SOC, QoS and security-enabled cloud…)
  - reduction of dependence on telecom standards for launching services
  - opening assets towards 3rd parties (ecosystem)

The End

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