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## **Disruptive Analysis**

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*Don't Assume*

# **WebRTC & Future Communications**

***Kamailio World, Berlin, April 17<sup>th</sup> 2013***

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@disruptivedean



# About Disruptive Analysis

- London-based analyst house & strategic consulting firm
- Covers mobile, voice, service provider technology
- Cross-silo, contrarian, visionary, independent
- Advisor to telcos, vendors, regulators & investors
- Covering VoIP since 1997 & WebRTC since June 2011
- Published report on “Telco-OTT Strategies”, Feb 2012
- **\*\*New\*\* Report on WebRTC, Published Feb 2013**  
<http://disruptive-analysis.com/webrtc.htm>

*Twitter @disruptivedean*

*Blog: disruptivewireless.blogspot.com*



**Why do people make  
phone calls, anyway?**



Only a slight exaggeration:

**Phone calls are 130 years old**

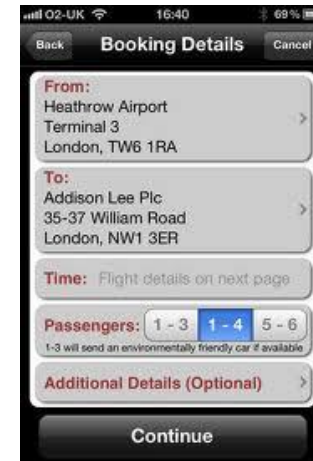
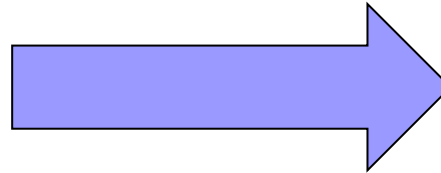
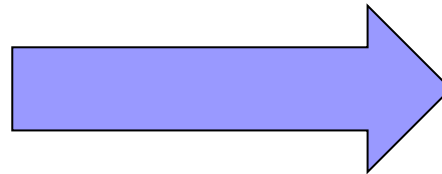
**Jack-of-all-trades, but master of none**

**Poor fit with real human behaviour**

**WebRTC & mobile apps enable better, but more  
fragmented communications modes**



# Not just Skype & SIP that are impacting voice





# Evolving the tele-phone [distant voice]

## Old distant voice [Tele-phone]

- Strictly session-based
- Limited context
- Background negative
- One-size fits all
- Unnatural etiquette
- Heavily regulated

*>100 years ago*

*2005-2030*

## Near voice [Proxi-phone]

- Context & interruption
- Background +/-
- Sync + Async
- Not “session” based
- Etiquette, not regulation
- Varying importance
- Natural



## New voice [Neo-phone]

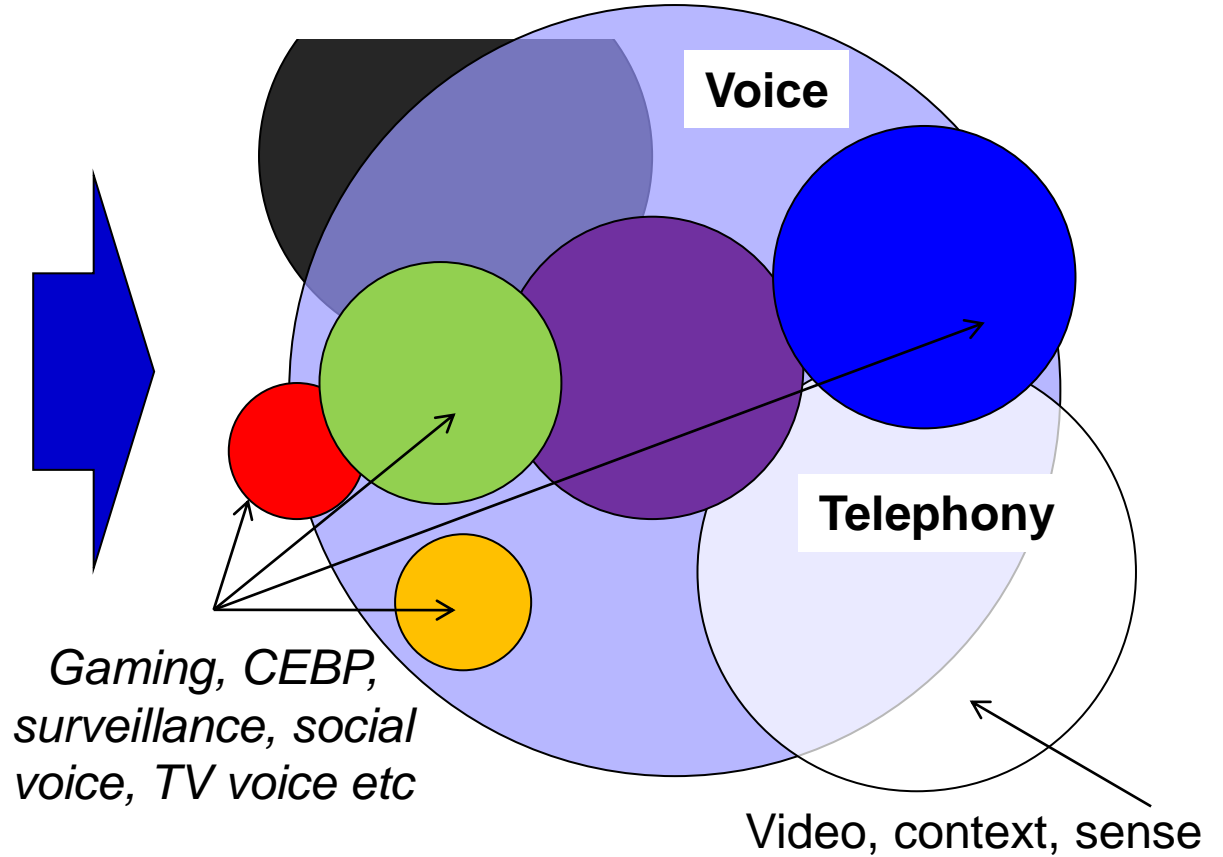
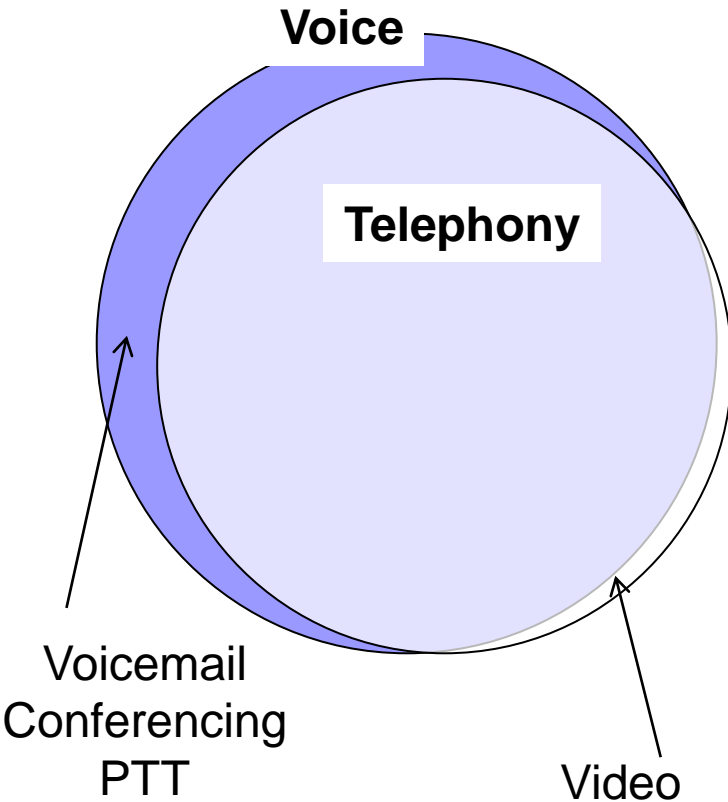
- Rich context
- Variable formats / sync
- App-embeddable
- Tailored to use cases
- Extensible & open
- (Super)natural behaviour
- Regulation?



# Voice ≠ Telephony

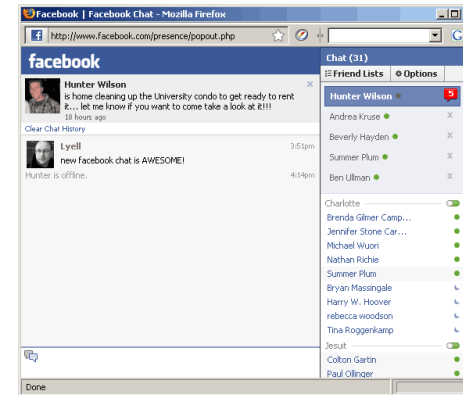
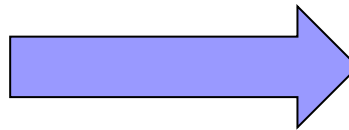
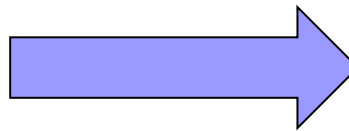
**Past: 2G / 3G / PSTN / UC**

**Future: WebRTC, apps, APIs, 4G**





# Remember these? Video & IM move to web

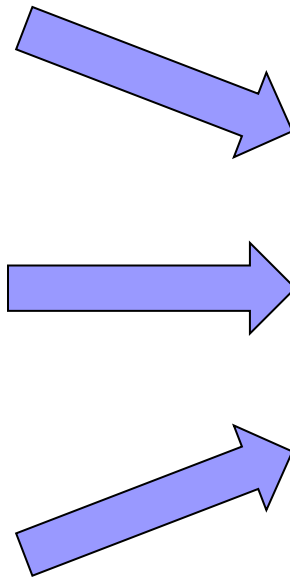
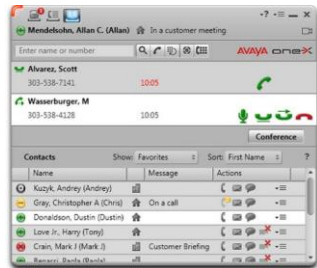
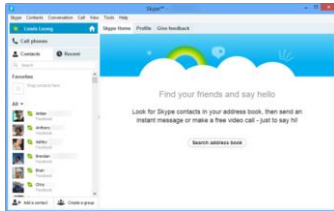


**Many previous “standalone” functions are now integrated with web pages**





# Coming next: voice, video, data in browser

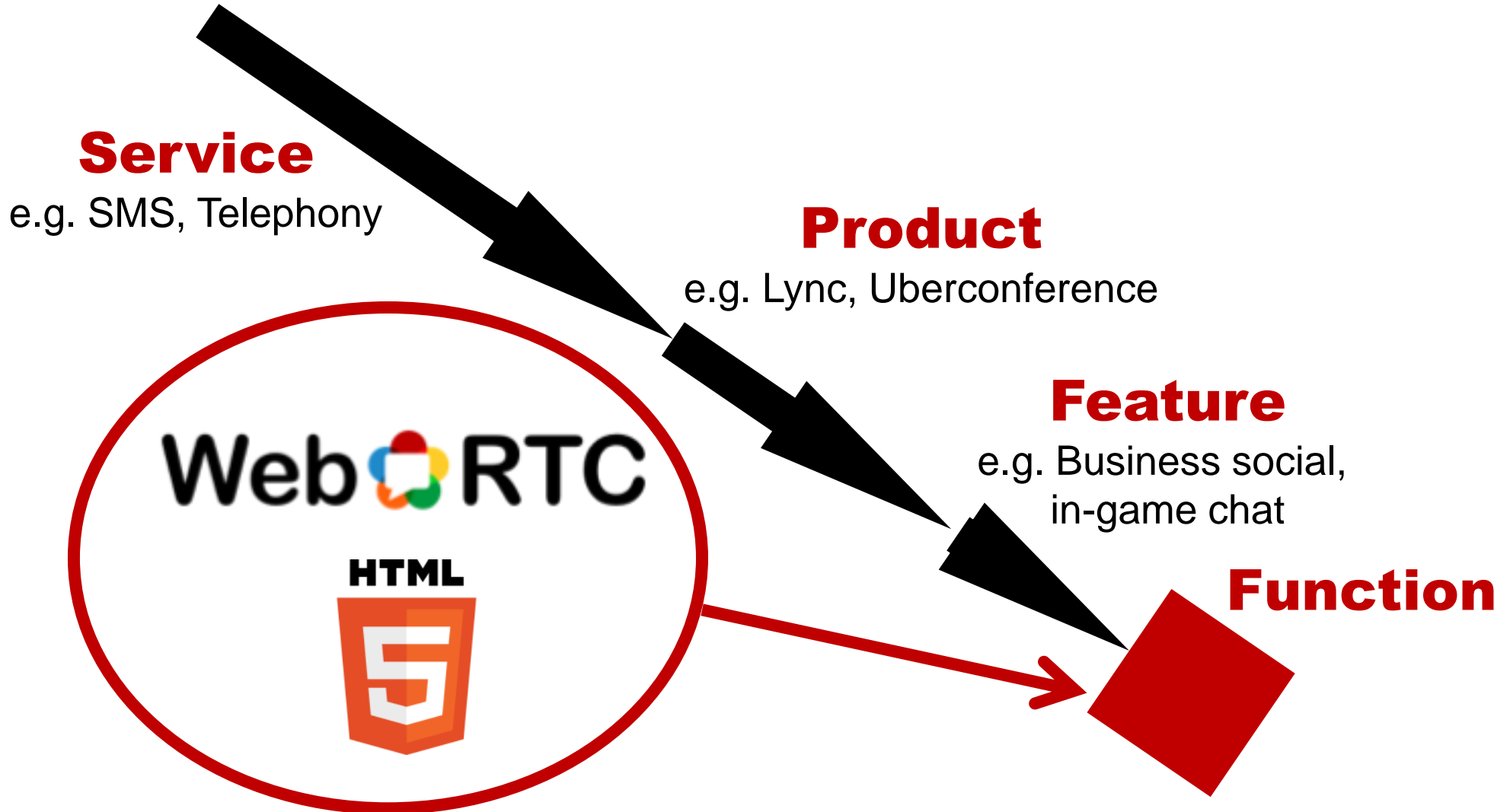


*(Yes, you can sort-of do it with plug-ins and Flash already.... But it's not very good)*

**Concept: a simple set of Javascript APIs so web devs can use it without fuss  
Complexities of codecs, media engine, firewall traversal etc all "sorted"**



# Voice/video moving from service to function

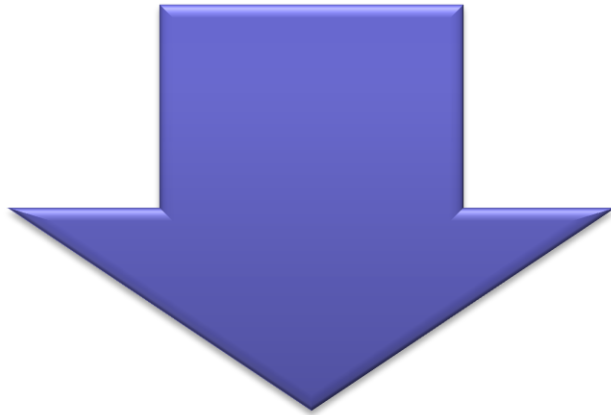




# For telcos, it's all looking pretty grim anyway

## **Downsides**

Voice & SMS saturation & cannibalisation  
Regulation & competitive impacts  
Weak content & VAS propositions  
Economic pressures  
Ecosystem competition



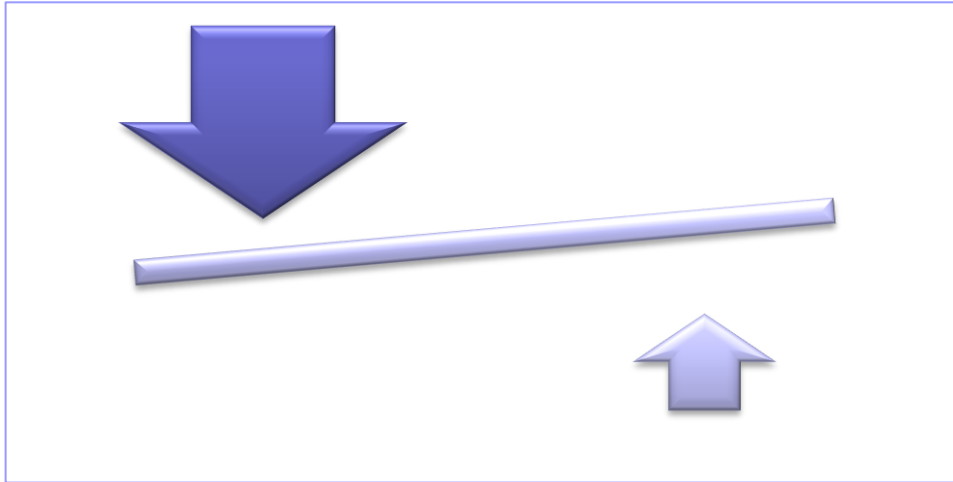
## **Upsides**

Connecting the last unconnected  
Smartphones & data growth  
Better segmentation, pricing & promotion  
Innovative services & enablers  
Embracing & exploiting fragmentation



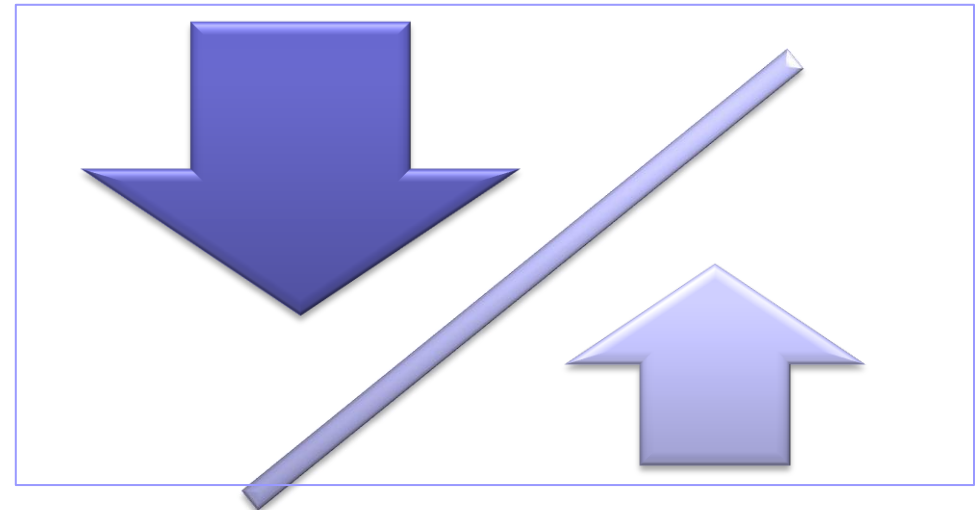


For telcos WebRTC is really a magnifier/catalyst



**Now**

**With WebRTC**  
Bigger opportunities  
Worse threats  
**Faster speed**

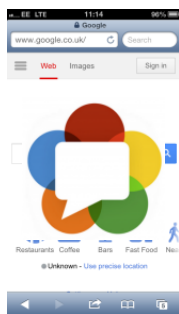




# WebRTC implementation: fixed & mobile



Most WebRTC on PCs will be “inside the browser”



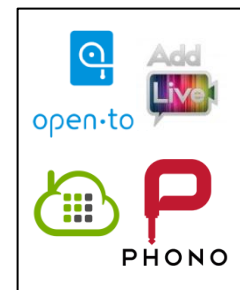
Native browser



Natively in OS



2<sup>nd</sup> browser



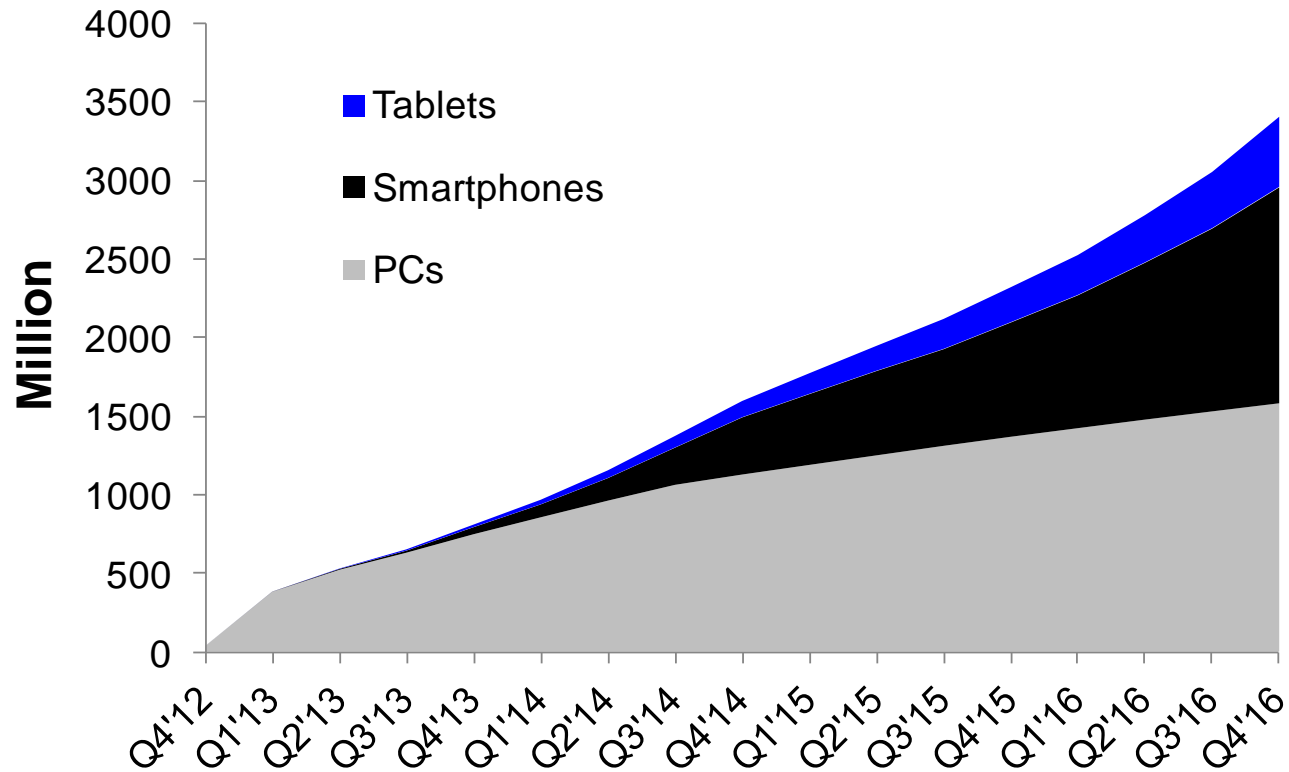
3<sup>rd</sup> party SDK

On mobile, it's much more complicated

**WebRTC is one area that is definitely not “mobile-first”. PCs about 18 months ahead**



# Device base supporting WebRTC



**Source: Disruptive Analysis WebRTC Strategy Report, Feb 2013**

Definitions & methodology in report - **See [disruptivewireless.blogspot.com](http://disruptivewireless.blogspot.com) for details**

**WebRTC base will grow rapidly, catalysed by auto-updated Chrome & Firefox browsers**



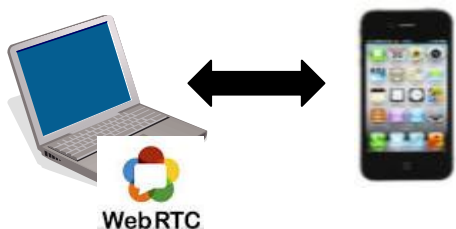
# WebRTC? But we've had VoIP apps for years!

- Hard-phone VoIP slowly fading
- Most VoIP apps are standalone “calling” tools
- Contextual / in-app opportunity slow & fragmented
- Complexity for developers
  - Rocket-science for SIP, acoustics etc
  - “Telephony” model inflexible
- WebRTC fit with HTML5/apps should enable “beyond the call” voice
- Similar to Flash video replacing Real for in-browser streaming
- Plus cool new stuff like realtime data
- Mashups + comms may shift shape of the curve

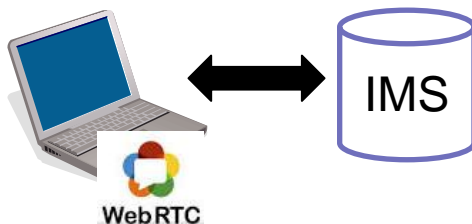


# WebRTC key use cases

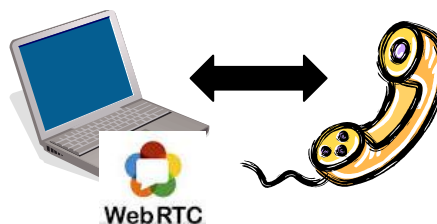
Browser-to-browser  
(or web-app) comms



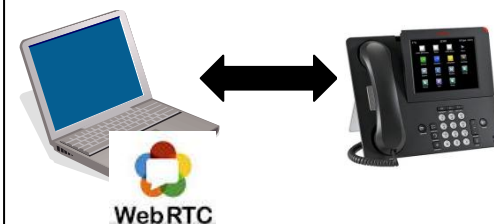
Browser-to-Telco  
VoIP/IMS/3Telco-  
OTT



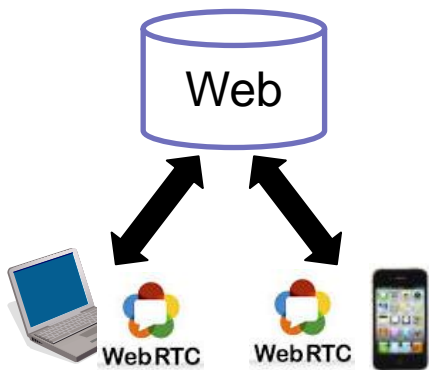
Browser-to-Telco CS  
/ PSTN



Browser-to-UC  
or IP-PBX



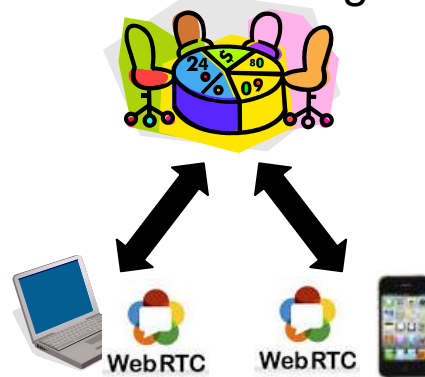
Browser-to-  
webserver



Browser-to-contact  
centre



Browser/app  
conferencing



Verticals

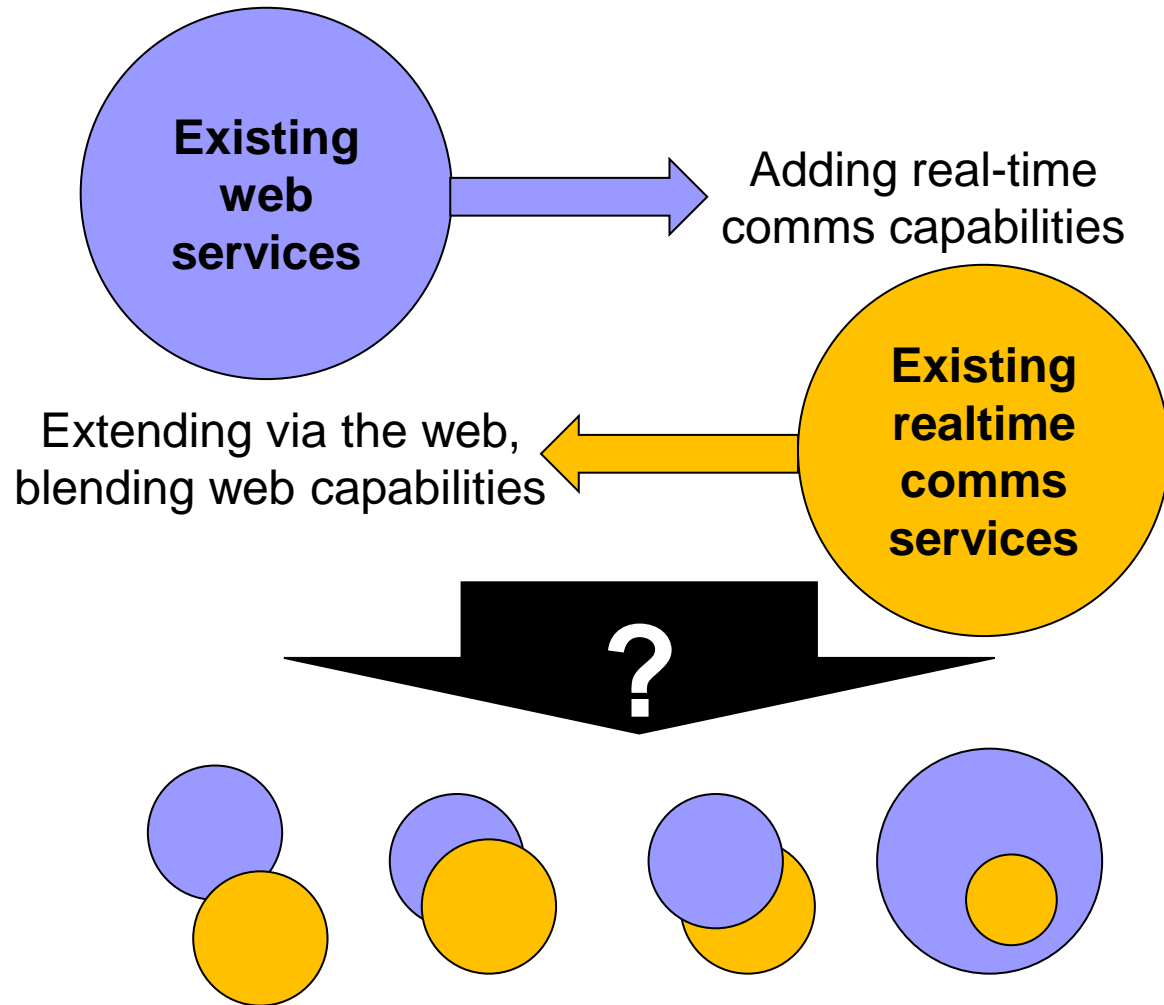


***Plus: M2M, gaming, TV-based, data-centric & various others***



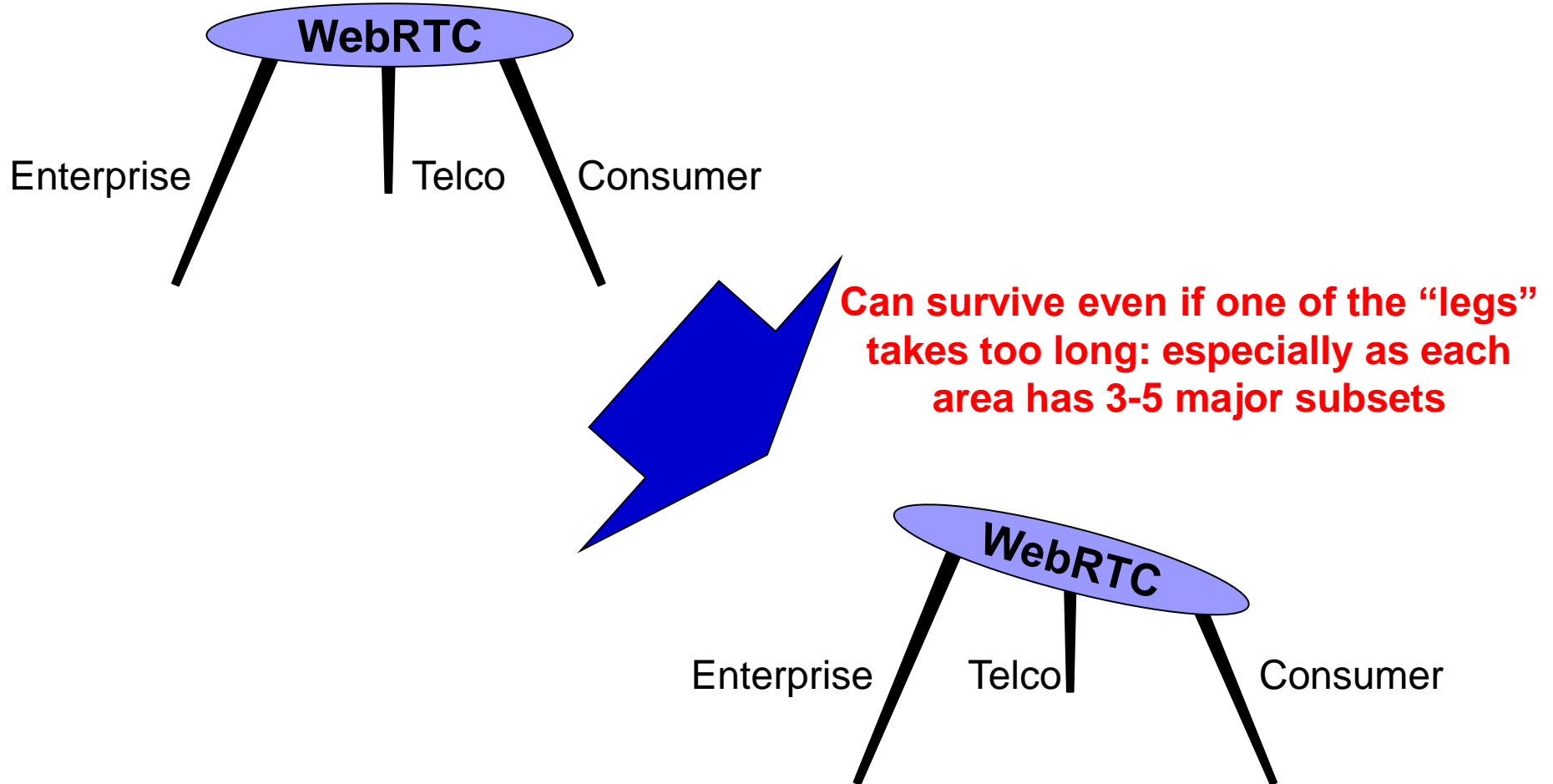


# What use-cases lead?





# WebRTC is a 3-legged (& therefore stable) stool



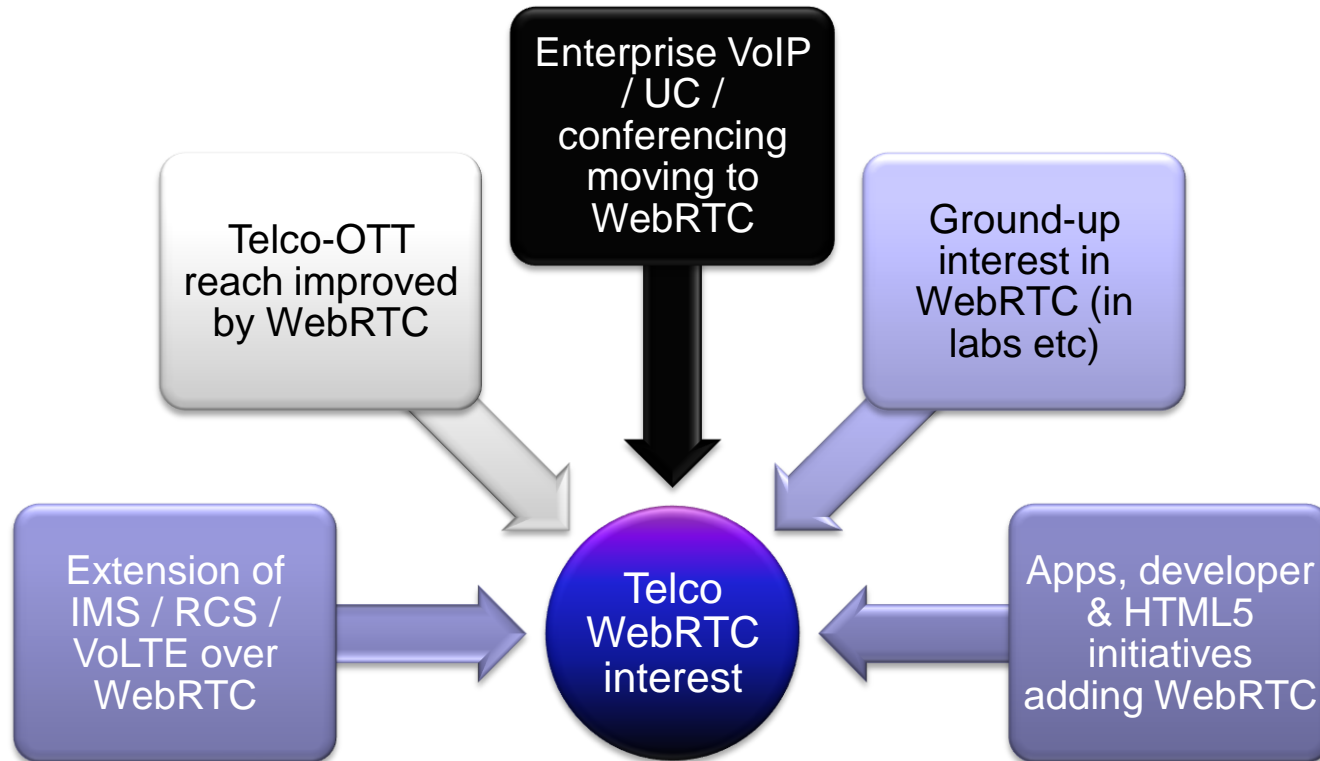


# Enterprise benefits of WebRTC as platform

- Many use-cases & “angles”
  - Your website becomes your call centre
  - New models for customer interaction (eg contextual support via video)
  - Browser becomes flexible/updateable softphone
  - Easier federation / interconnect between companies
  - Slick web-based conferencing, inc. easier integration with web tools like LinkedIn & DropBox
  - Easier 2-way comms within mobile apps
  - Various new possibilities with realtime data sharing
- Don't just think about WebRTC in terms of today's telephony
- Think more adding comms to any company website or app



# Multiple telco angles/oppo's for using WebRTC



*+ Policy / broadband teams: Can we detect / block / bill for it?  
Regulatory: What does this mean, how do we do 911 etc?*

**IMS extension currently “loudest” Telco/WebRTC domain, but not necessarily most important. Execs should ensure it is exploited across the organisation**



# Will WebRTC enable purpose-specific comms?

	<b>“Jumping in a cab! There in 5”</b>	<b>1-hour conference call</b>	<b>45 min chat to Aunt in Australia</b>	<b>Unsolicited B2B sales call</b>	<b>“Wish you were here...”</b>
Pre-arranged?	No	Yes	Maybe	No, but maybe escalated	Sent as async “postcard”
Video?	No	Maybe, with “mute”	Probably	Worse than useless	Yes
In-app?	Maybe in diary or map	Yes, in conf / collab tool	Probably not (Family SocNet?)	Not today. Maybe in future	Photo app
Background noise suppression			Probably quiet place anyway	Yes, don't want to hear call-ctr noise	Limited, eg waves in background



# Conclusion

- WebRTC is real and here now
- Still *very* new but evolving at super-speed
  - Standards issues, mobile & even MS/Apple worked around
- Supported by almost all “big names” from comms & Web
  - “Buzz” from incumbents, startups, investors; few dissenters
- Browser support on PCs fairly fast, mobile more patchy
- Multiple use-cases
  - Enterprise
  - Telco
  - Consumer web
  - Niche / vertical / disruptive plays
- Use-cases with many “moving parts” will take longer
  - So start now!



**Disruptive Analysis**

*Don't Assume*

[www.disruptive-analysis.com](http://www.disruptive-analysis.com) ← WebRTC report details

[disruptivewireless.blogspot.com](http://disruptivewireless.blogspot.com)

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