



Video meets 5G

Wireless and Web Communication

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End User Expectations

Video

- Better quality entertainment
- Feeling of “presence”
- Natively integrated into apps
- Move data from more sources

5G

- Dramatically more bandwidth
- Lower latency and faster call setup
- Many access technologies
- Real-time multimedia requires IMS

Future Usages and Business Value

New usages

- Multi-device ==> Social, collaborative, real-time, conversational video, screen sharing, business telepresence

New business value

- Markets for mobile operators beyond the “just the phone”
- Home automation, IOT, wearables, connected cars, PCs, Wi-Fi tablets
- OTT is a threat to operator relevance and introduces security risk. Services over IMS / SIM are trusted & secure.
- One SIM card, many devices – I can use my number to access services & my contacts across all my devices

Connecting the phone world and the web world

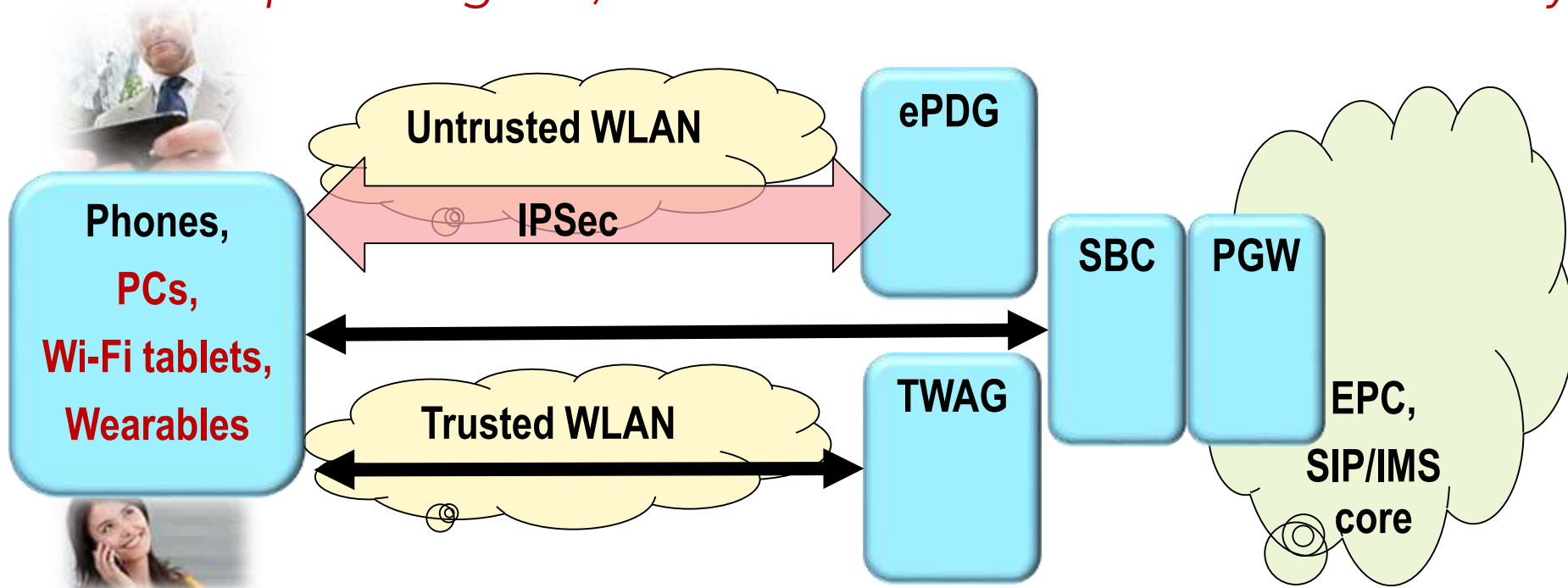
- WebRTC as web/apps front end for IMS/EPC network – apps/browsers can behave as a VoLTE device
- Bridges the phone world and the Web world (call a browser)

I Want to Call, Message, IM, Reply from any of my Devices



Multi-Device Calling

Expanding 5G, 4G Services to non-SIM Secondary Devices



- Alternative method to authenticate
- Uses network to access credentials in remote SIM from primary device to authenticate user
- Presents Username / PIN challenge to validate locally-connected secondary device (one time password, e.g. PIN via SMS to primary device)
- After validation, secondary device(s) with IMS client on local WLAN gets IMS services

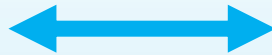
	Trusted WLAN		Untrusted WLAN	
SIM/UICC Card	Yes	No	Yes	No
Authentication	EAP-AKA	EAP-TTLS EAP-TLS	IKEv2	Username/PIN
VoWiFi client UE	Yes	Yes	Yes	Yes

Home Automation, IOT Devices

Controlled with Your Phone

On/off, control, camera streaming

App calls home gateway



Video,
Audio,
Control

**Wi-Fi,
ZigBee**

**5G,
LTE**



Video,
Audio,
Control



5G, LTE Home Gateway
with SIM/UICC phone number
→ *Becomes IMS "hotspot"*
delivering home control
and live media streaming
over Wi-Fi, ZigBee, etc

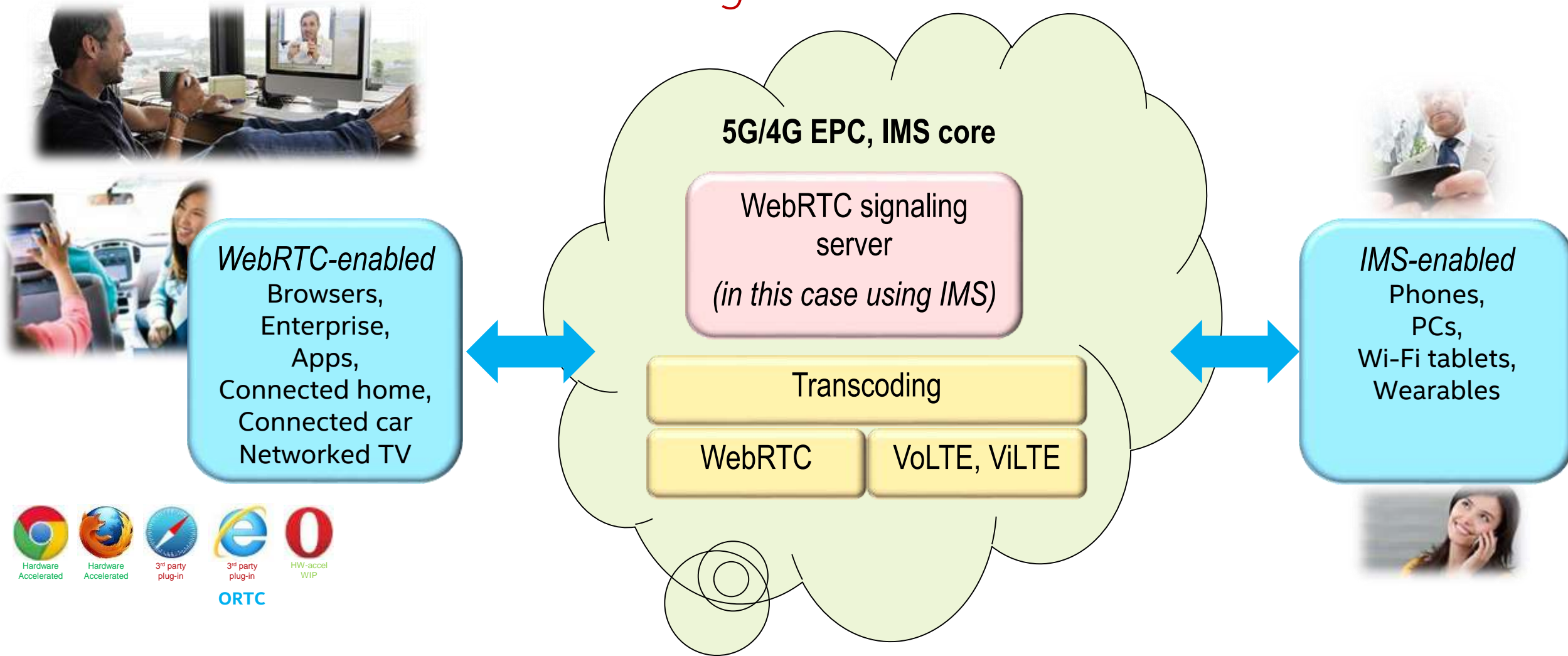


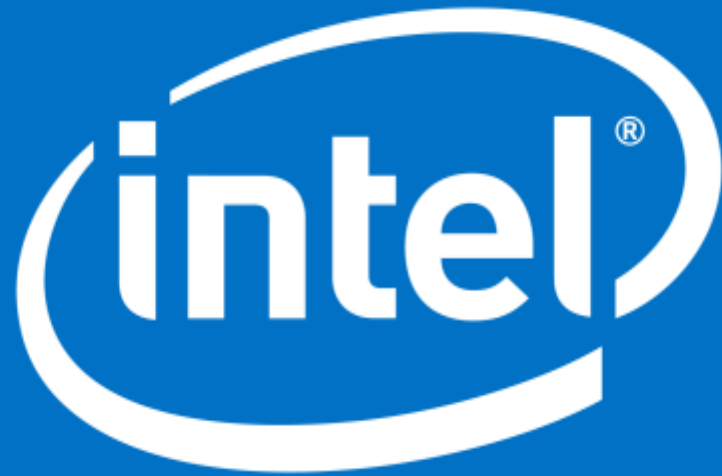
*IMS-enabled
Phones,
PCs,
Wi-Fi tablets,
Wearables*



Connecting 5G and Web

Using WebRTC





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IMS Enables Real-Time Communication

Legend

- Packet-switched
- Circuit-switched on 2G/3G bands

3G Data

Voice
SMS

3G phones

2G/3G

4G Data

Voice
SMS

LTE phones

4G Data

Video calls,
Chat/IM,
Presence,
My contacts

HD Voice,
SMS

IMS

Voice
SMS

VoLTE phones
with CSFB

2G/3G + LTE

4G, 5G Data

Voice
SMS

Future All-IP Devices

Video calls,
Chat/IM,
Presence,
My contacts

HD Voice,
SMS

IMS

LTE, Wi-Fi, 5G

