Innovation
Qualcomm
ISTANBUL
2011

QUALCOMM

Driving Better Mobile Experiences

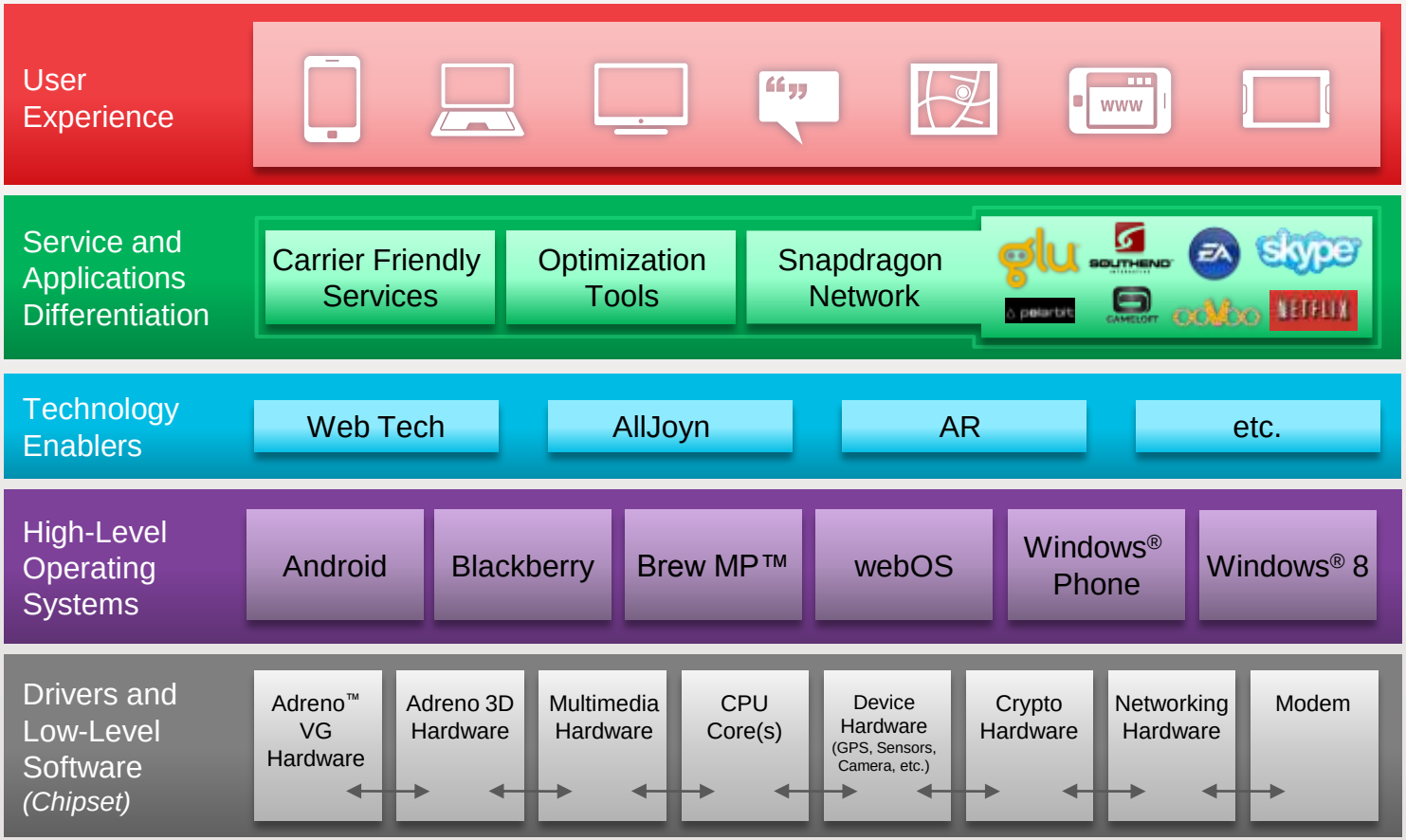
A Holistic Approach to Hardware and Software

Rob Chandhok
Senior Vice President and President, QIS; President QuIC

Follow me on Twitter: @robchandhok

INDUSTRY
ANALYST
SUMMIT
EMEA

Integrated Hardware and Software



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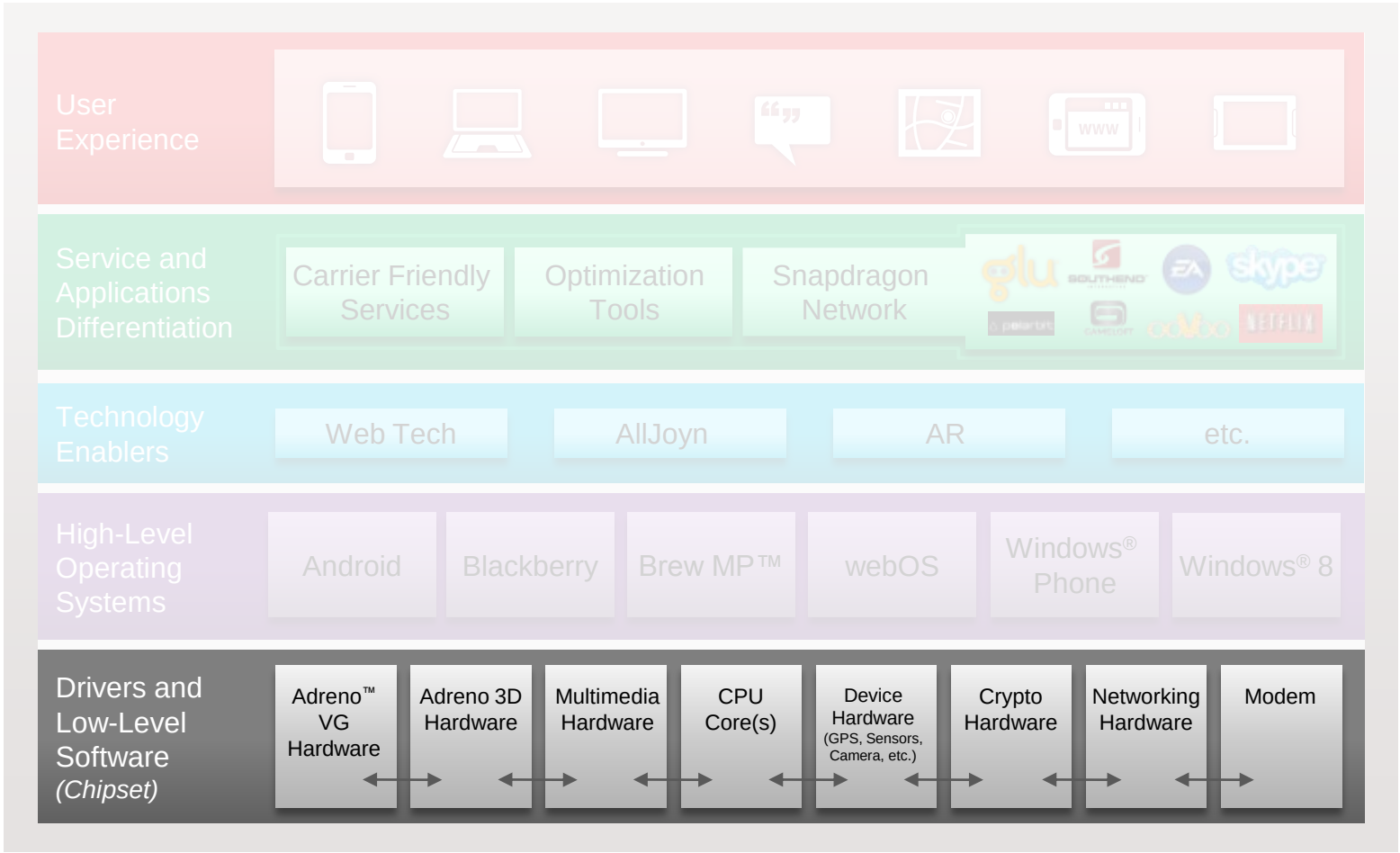
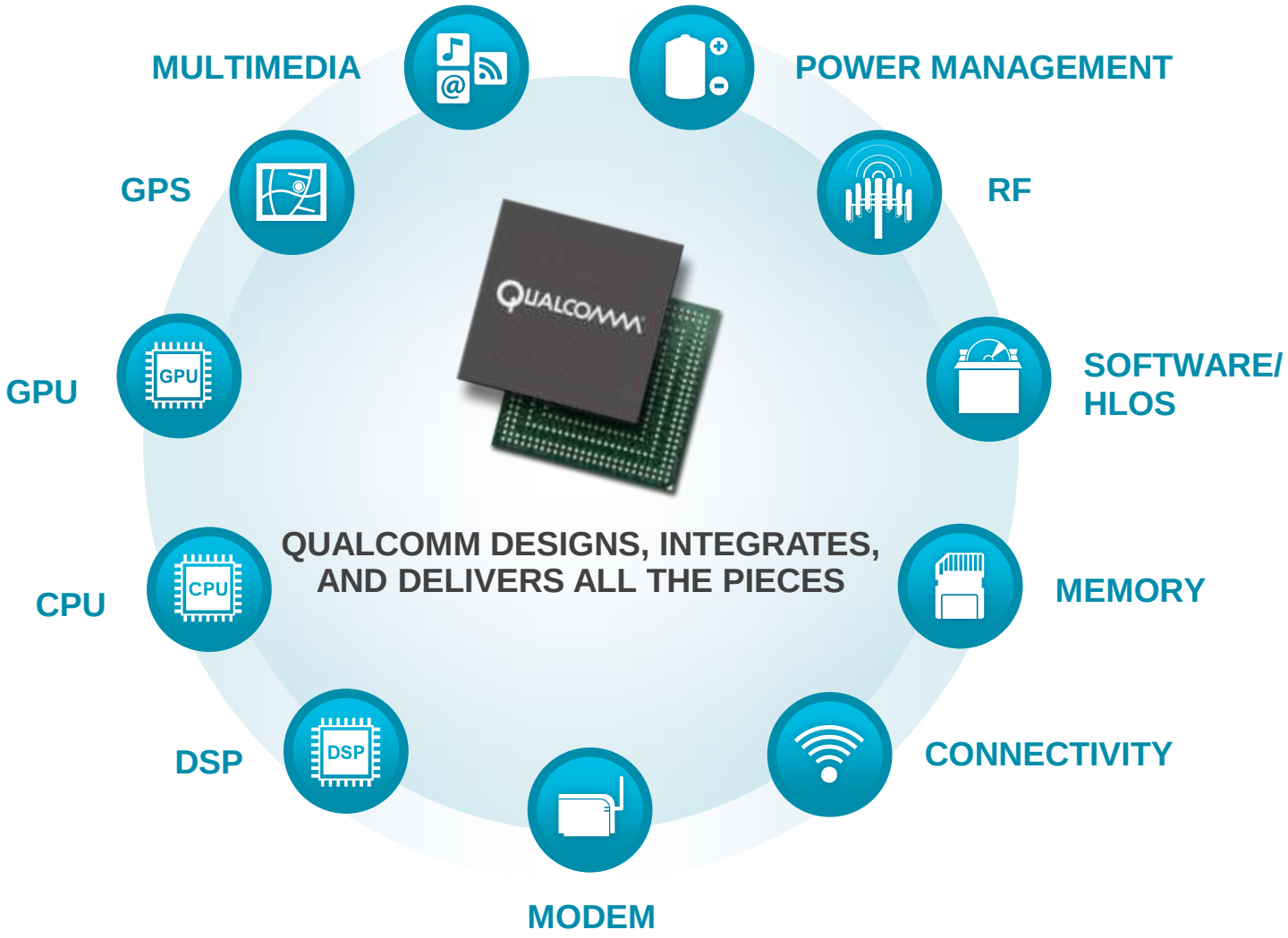
Optimized/Integrated Platform



Integration: Required for Systems Business



Broad Enablement of Smartphones and Tablets

125 COMMERCIAL DEVICES ANNOUNCED, 250 IN DESIGN

SNAPDRAGON CURRENTLY POWERS 10 TABLET MODELS AND 40 MORE IN DESIGN

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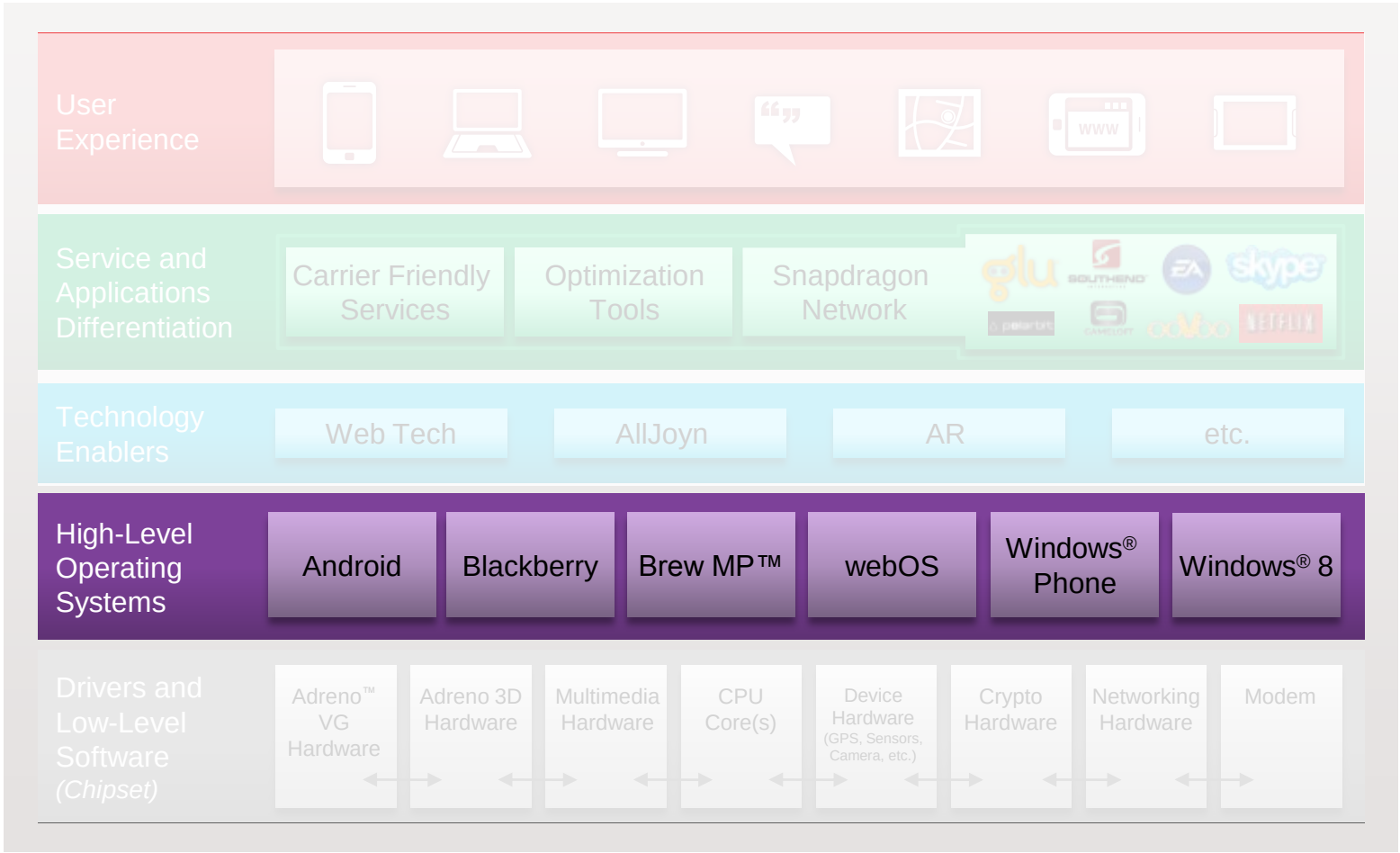
Operating Systems



Android Leadership

QUALCOMM SUPPORTS ANDROID ACROSS ALL SMARTPHONE TIERS

200+

DESIGNS LAUNCHED
WITH QUALCOMM

30+

MANUFACTURERS
SHIPPING WITH QUALCOMM

Windows Phone

SNAPDRAGON POWERS WINDOWS PHONE

snapdragon by Qualcomm

Windows Phone

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Working to Provide Better Experiences to Millions of Consumers with Brew MP

Core smartphone functionality without the high price tag

Data usage without being tied to a costly plan

Richer experience and on-demand connectivity, without the complexity of a smartphone

"SMART EVERYDAY DEVICES"

WE'RE NOT JUST TALKING ABOUT OPPORTUNITIES OF TENS OF MILLIONS…BUT HUNDREDS OF MILLIONS OF DEVICES

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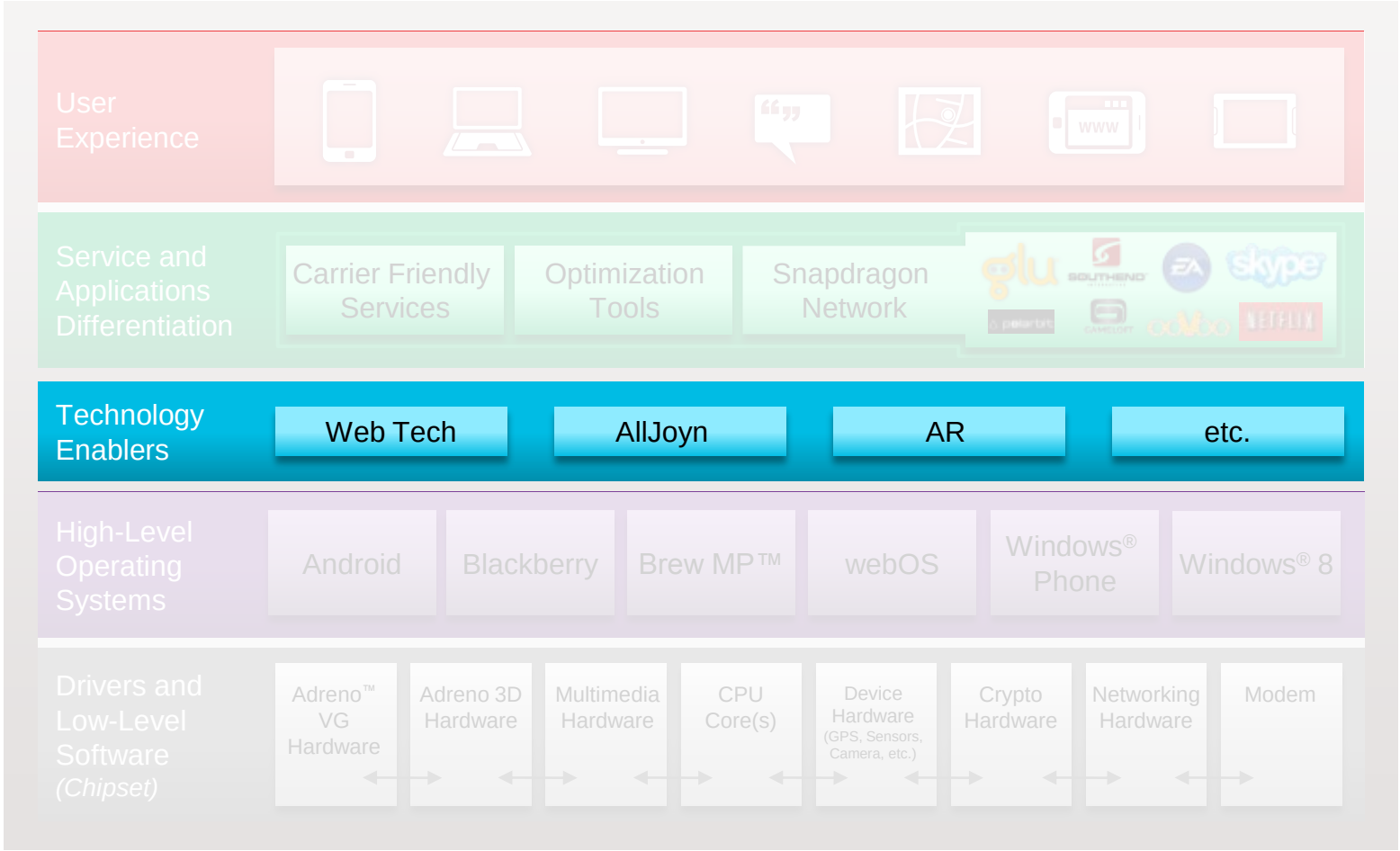
Technology Enablers



Browser Performance Optimizations

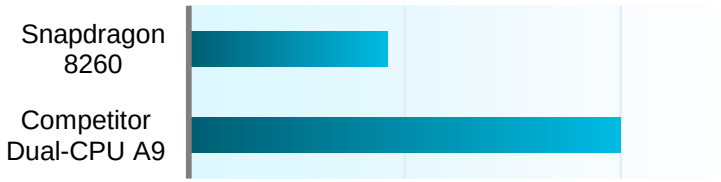
21% FASTER AVERAGE PAGE DOWNLOAD[1]

70% FASTER ON V8 BENCHMARK[1]

30% FASTER AVERAGE PAGE RELOAD[1]

46% FASTER AVERAGE DOWNLOAD[2]

snapdragon by Qualcomm



(Lower # is better)

Source: Tests performed by Qualcomm Innovation Center, Inc.
[1] Tested with 26 sites on both UMTS and Wi-Fi networks on 1.2Ghz Qualcomm MDP8660 between optimized and stock Android 2.3.
[2] Tested with 30 sites on Wi-Fi and consistent environment on Android 2.3 using HTC Sensation and production OEM device with Dual-CPU A9.

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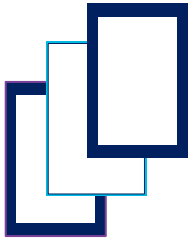
Browser Performance Optimizations

71fps

Smooth as glass scroll, pan, zoom[1]



snapdragon by Qualcomm

7%

Average power improvement when browsing[1]

> 30% faster

HTML5 <Canvas> JS GameBench rendering[2]

Source: Tests performed by Qualcomm Innovation Center, Inc.
[1] Tested on 1.2Ghz Qualcomm MDP8660 between optimized and stock Android 2.3.
[2] Tested with 30 sites on Wi-Fi and consistent environment on Android 2.3 using HTC Sensation and production OEM device with Dual-CPU A9.

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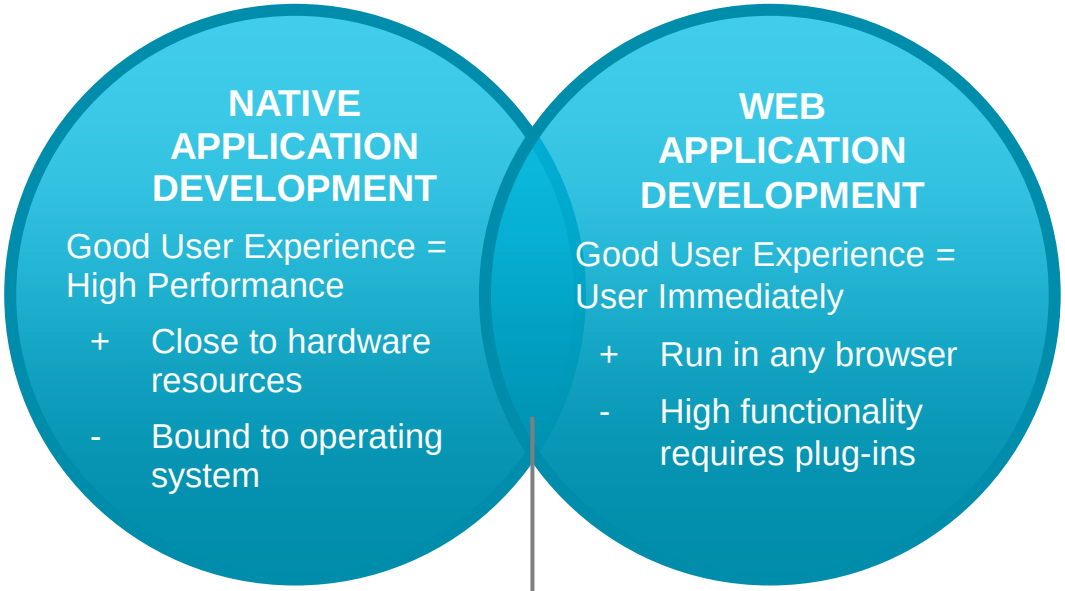
Web Apps: State of the Nation

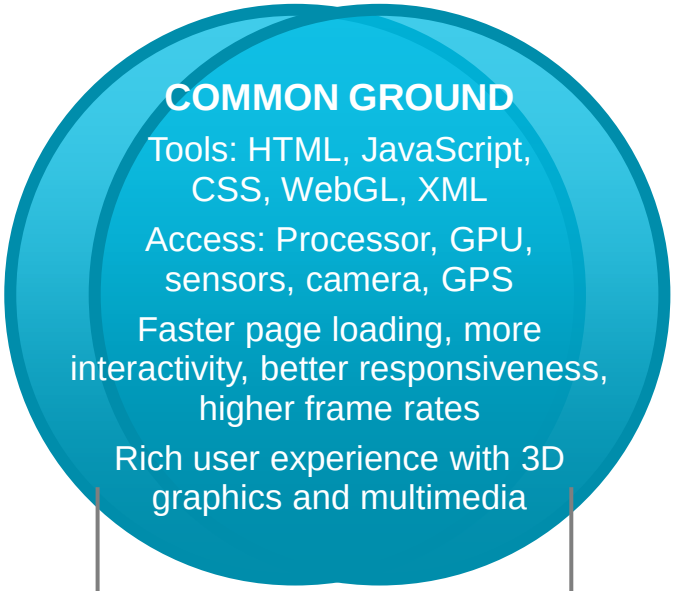
CURRENT MOBILE APPLICATIONS PARADIGM



Common Ground

Always on, always connected

FUTURE MOBILE APPLICATIONS PARADIGM



Native

High-performance, function-specific applications

Web

Simple web-only applications (search, browsing)

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Device API Packs to Be Covered

Location

- Single location
- Interval location
- Proximity alert

Sensors

- Pitch
- Direction
- Speed

Camera

- Zoom
- Filter effects
- Image recognition

Audio

- Capture
- Pitch
- Rate

Augmented Reality

- Image targets
- Frame markers

Proximity Peer-to-Peer

- Discovery
- Secure connections

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What Is AllJoyn™?

ALLJOYN ENABLES AD HOC, PROMIXITY-BASED, PEER-TO-PEER, BEARER AGNOSTIC NETWORKING BETWEEN DEVICES AND APPLICATIONS

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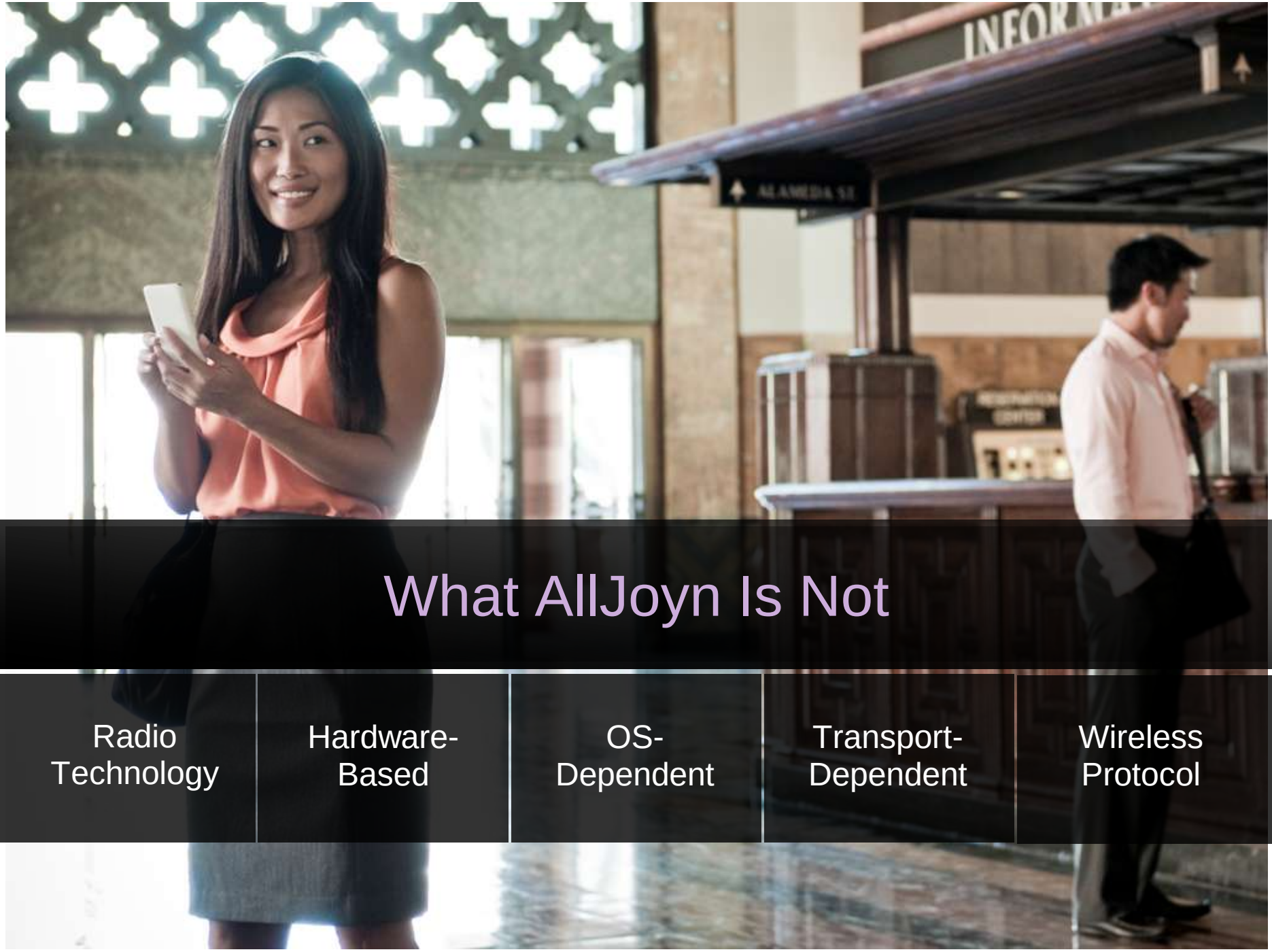

What AllJoyn Is Not

Radio Technology	Hardware-Based	OS-Dependent	Transport-Dependent	Wireless Protocol

P2P Friction Developers Face Today

DEVICE DISCOVERY

SERVICE DISCOVERY

PAIRING

PLATFORMS

SECURITY

RADIOS

AD HOC NETWORKING

TRANSIENT DEVICES

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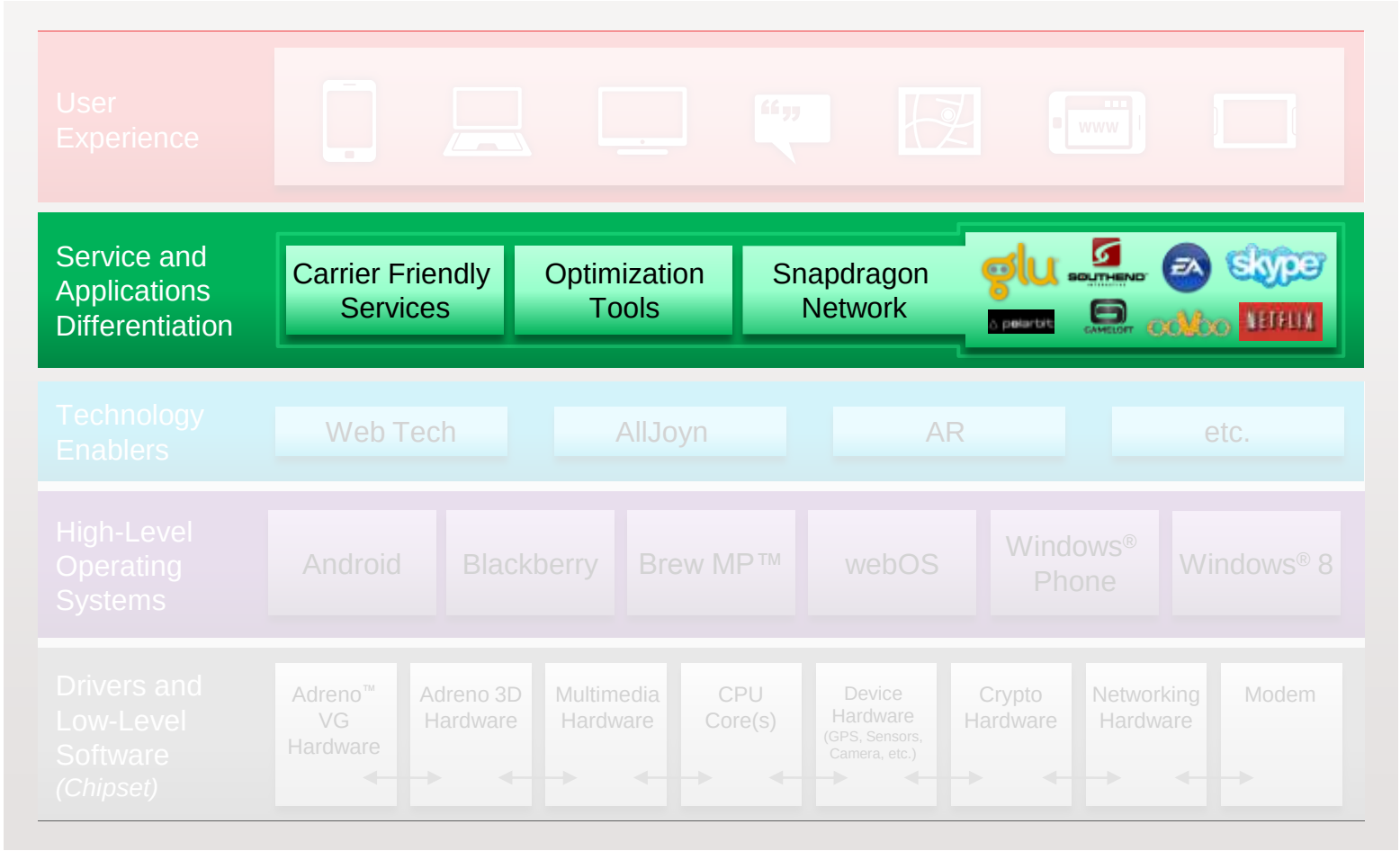
AllJoyn Makes Peer-to-Peer Frictionless

Discover devices and applications around you	**Adapt** to devices coming and going	**Manage** transports like Bluetooth® and Wi-Fi and message routing across them	**Interoperate** across disparate operating systems and bearers	**Exchange** information in a secure manner

What New Experiences Can AllJoyn Enable?

Service and App Differentiation



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Snapdragon Developer Ecosystem: Goals

Enable developers
to build and optimize differentiated user experiences for Snapdragon-enabled devices

snapdragon by Qualcomm

Introduce developers
to our OEM and carrier customers for preload and other partnership opportunities

Developers Are Creating the Next Generation User Experiences

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Focusing on Developer Needs

QDevNet™
Qualcomm Developer Network

Developer portal, providing documentation, SDK and tools download, and forums

snapdragon™
by Qualcomm

Snapdragon Mobile Developer Platform

Fully featured development platform with high-quality multimedia performance:
HD video, console-quality graphics, high-res cameras, and more

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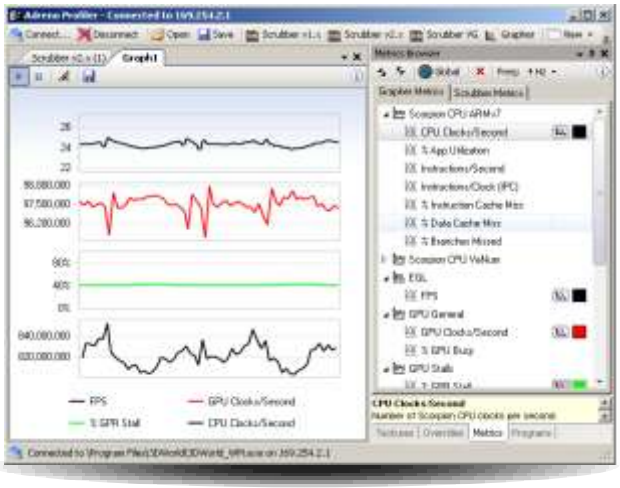
Creating Powerful Developer Tools

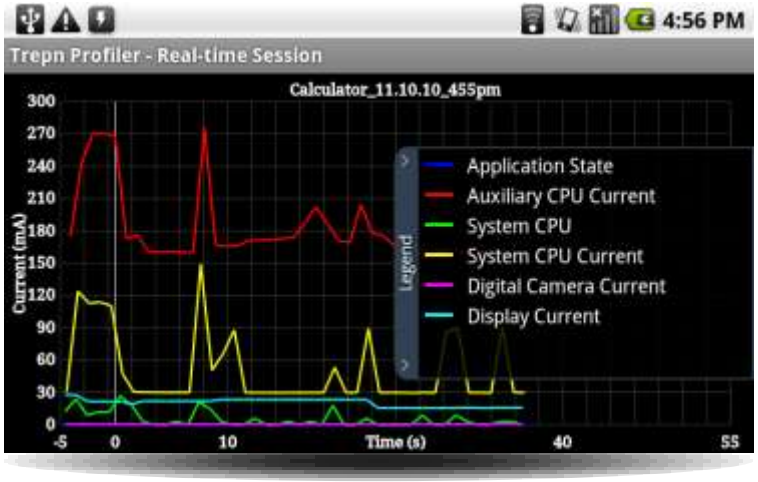


Adreno Profiler™

Enables developers to optimize 3D graphics performance on Adreno GPUs

Trepn Profiler™

Real-time view of actual current usage across Snapdragon development platform



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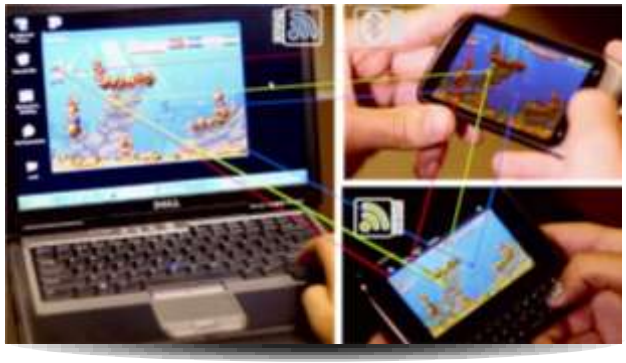
Extending OS Platforms with SDKs

Vision-Based Augmented Reality

Source: Rock'em Sock'em Robots by Mattel Inc.



Peer-to-peer framework, offering simplified group formation, and service discovery, with low latency transport

AllJoyn

Adreno SDK

Android, Brew MP, Linux, Windows Phone; OpenGL ES desktop emulation libraries, sample code, tutorials, demos, documentation, and miscellaneous tools

brew mp

OpenGL ES

Windows Phone

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Snapdragon Developer Partners

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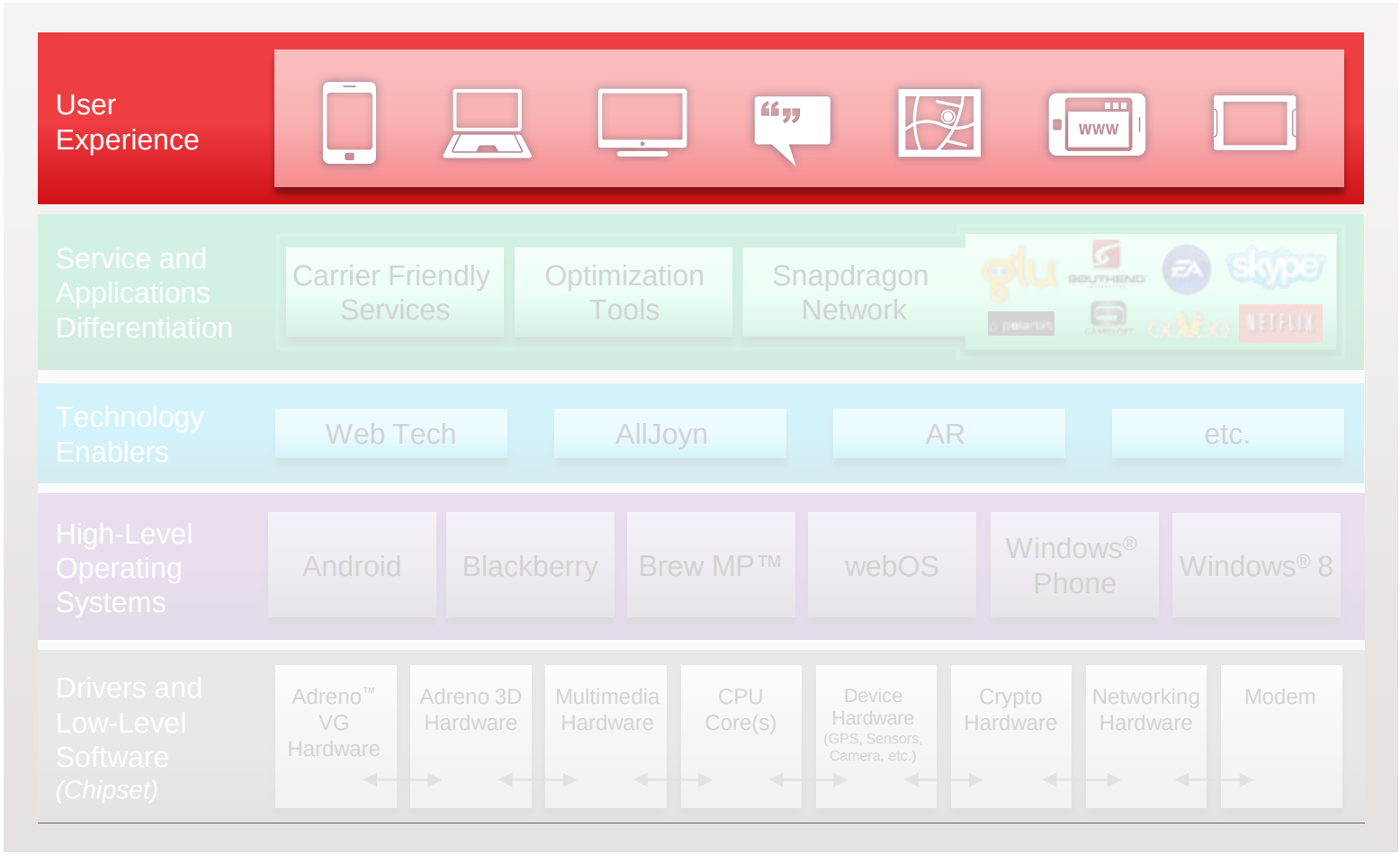
User Experience



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Questions?

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