WEBRTC: REACH THE WEB WITH A NEW CONVERSATION EXPERIENCE

STRATEGIES THAT SPEAK TO A SERVICE PROVIDER'S CHALLENGES AND OPPORTUNITIES

STRATEGIC WHITE PAPER

WebRTC has outstripped the hype surrounding it and will completely change the communications landscape. Service providers need to understand its challenges and opportunities, so they can create multiple strategies that leverage its power to provide a new conversation experience to their customers and partners. We'll tell you how and we encourage you to quickly begin exploring WebRTC's many dimensions.

Alcatel·Lucent

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WebRTC QUICKLY ACHIEVING CRITICAL MASS

More people are connected than ever before. Today, nearly 2.5 billion of 7 billion people are Internet-connected [5]. There are nearly 7 billion mobile phone connections, and 2 billion of them are broadband [6]. Half of the nearly 2 billion annual handset sales are smartphones [7]. And 200 million broadband tablets are sold each year [4]. The widespread availability of broadband and smart devices sets the stage for Web Real Time Communications (WebRTC).

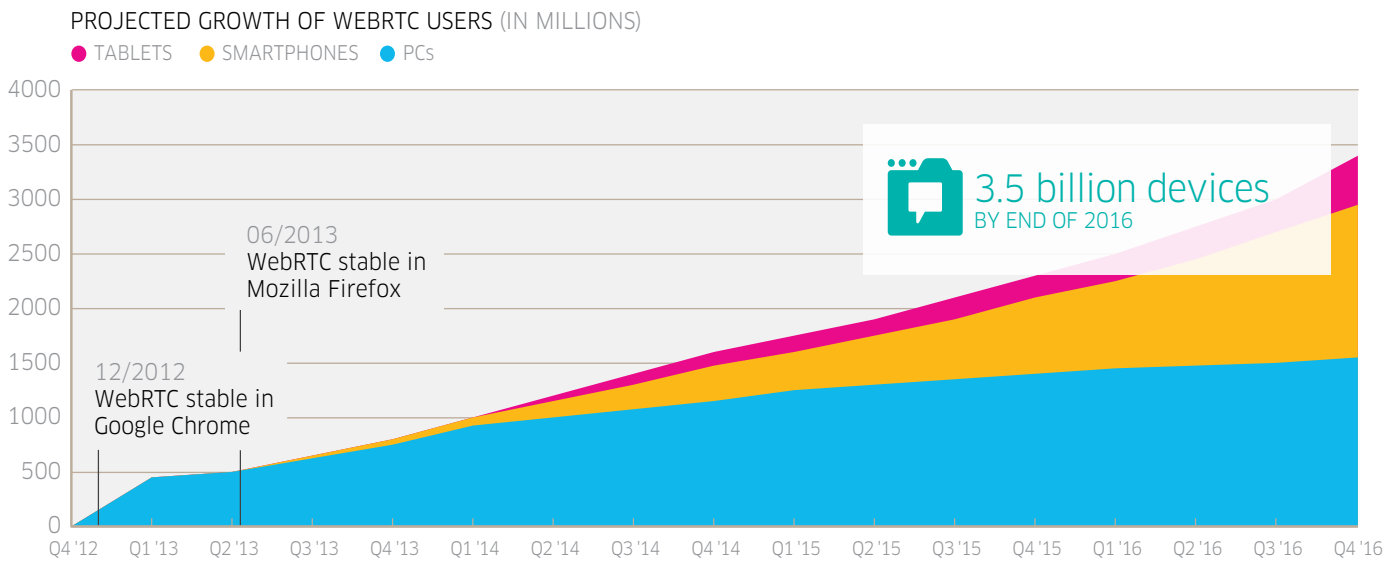
Smartphone usage continues to grow, largely because of the many apps that are available on smartphones. According to Gartner, over 50 percent of mobile apps will be HTML5-native hybrids by 2016 [3] — enabling all the people with their many devices to move seamlessly between them.

In this environment, WebRTC is quickly achieving the critical mass required to completely change communications. It's already available in Mozilla® Firefox® and Google Chrome™ browsers, which together own half of the worldwide desktop browser market share [8].

There's also fast advancement being made in mobile. In addition to working on desktops, Google Chrome browser works on smartphones and tablets.

The projected growth rates for WebRTC-enabled devices are staggering. According to Disruptive Analysis, the 1 billion device threshold is crossed during the first quarter of 2014. By the end of 2016 there will be almost 4 billion WebRTC-enabled PCs, smartphones and tablets and nearly a billion individual users [2] (see Figure 1).

Figure 1. Current status and projected growth of WebRTC devices



Source: Disruptive Analysis and Alcatel-Lucent research

But what does all of this mean for service providers? What are WebRTC's challenges and opportunities, and what should a service provider do about WebRTC?

THE IMPLICATIONS

At the very least, WebRTC lowers the barrier for new entrants to get into the communications business, because, for the first time, they can use JavaScript® to very easily build a client once and rapidly distribute it onto almost any broadband device, where it appears to the user as an HTML5 app or a Web app in a browser. The new entrants can focus on making their application even better instead of devoting time to solving technically difficult client issues or figuring out how to provide the client to their customers. WebRTC also makes it easier to integrate communications into websites and web apps.

As a result of these developments, service providers will have far more competition from a much larger pool of innovators who are already moving quickly to win in the enterprise and consumer segments.

By its nature, WebRTC puts a communications client into any smart broadband device, including phones, tablets, laptops, kiosks, televisions and gaming consoles. Instead of being limited to using phones to communicate, people can use any smart broadband device. This extends the nature of communications from being primarily a standalone telecommunications service into also being a function that is embedded inside of broader applications, websites and browsers, such as an e-retail shopping portal or a sports application.

In addition to creating a drastically larger communications market, WebRTC affects how and where any type of provider can brand their service or application. Web providers will put communications into phones, and service providers will put communications into the Web. Consequently, such a dynamic marketplace requires service providers to consider a branding strategy that ensures their presence and value is clearly visible to their customers.

The openness of WebRTC can also change the enterprise market. Currently, the market for large enterprises' services is dominated by closed, proprietary solutions provided by a handful of premises-equipment vendors. WebRTC sets the enterprise free to explore new solutions because they are no longer bound to particular devices and can integrate communications with their Information Technology (IT) systems and websites.

With WebRTC, the device doesn't matter. An enterprise user's "phone" is as near as the closest browser or smart broadband device. As a result, incumbent enterprise vendors will face new competition for enterprise customers.

Device independence is also important for the consumer market. People expect rich communications and an enhanced user experience across devices. Service providers had better be able to deliver if they want to win a share of this market.

THE ALCATEL-LUCENT WEBRTC SOLUTION

To leverage the opportunities of WebRTC, service providers need to think big. Delivering yet another lower-priced video conferencing tool or yet another call center improvement is not enough. We propose a paradigm shift that enables you to provide a new conversation experience (see Figure 2).

Figure 2. The WebRTC opportunity

The Alcatel-Lucent WebRTC solution enables you to:

- Differentiate from other service providers
- Expand with open innovation
- Rethink your enterprise strategy

Differentiate from other service providers

Adapt your strategy to include WebRTC as part of one communications strategy for both Web and traditional communications. By unifying mobile devices, browsers and applications through WebRTC, you can differentiate yourself from Web-only and telecom-only competitors and instead engage people who prefer to use both the Web and telecom. For example, you can enable their unique identity across both the Web and telecom, so that they are easily reached on any device, by anybody.

You could and should consider how to use WebRTC in only a Web or telecom context, for example, to pursue promising Web apps or to provide a lower-priced yet more-capable smartphone. However, by engaging both the Web and telecom markets you improve your fit with the way that many people live and work.

Leverage WebRTC in your LTE strategies. You can re-use your investment in VoLTE quality of experience (QoE) to ensure that WebRTC mobile phones benefit from efficient radio utilization and a tight integration of the application with the access and core network.

Expand with open innovation

Increase your brand's reach and generate new revenue by opening communications to innovation. With WebRTC, you can transcend the typical geographic or demographic barriers of your brand and extend your offer to the Web.

Use WebRTC to build new applications and services that get you into new markets and onto multiple devices. WebRTC, together with an IMS API strategy, makes innovation quicker and more affordable while helping you differentiate by branding your more robust services onto the Web.

Rethink your enterprise strategy

WebRTC enables enterprises to shift to IT-centric communications, freed from the restrictions of proprietary unified communication silos. WebRTC helps streamline IT and communications into a cohesive whole, plus it simplifies device management by reducing the number of enterprise desktop phones and native mobile app downloads. Instead, enterprises can use rich HTML5-based apps, where the app's update is instantly provided by just a click of the browser's refresh button. The results are increased productivity (because of combining IT and communications) and cost savings (because of device and client simplification).

WebRTC together with IMS is a compelling offer to enterprises looking to simplify their infrastructure and bring communications into the conversation.

SOLUTION USE CASES

You and your customers can use the Alcatel-Lucent WebRTC solution in several ways:

- Communications as a service
- Communications as a feature
- Communications inside apps

Communications as a service

We are already familiar with communications as a service. WebRTC extends voice, video and messaging services from traditional devices, such as smartphones, to new devices, such as tablets, laptops and televisions. For example, a WebRTC-based dashboard can keep people in touch no matter where they are or which device they use.

Communications as a feature

WebRTC enables the new deployment of communications as a feature, embedding communications inside websites. Instead of building their own communications system, website owners in sectors such as banking and retail can lease communications from the service provider. This opens up opportunities for analytics and an improved consumer experience, such as the agent and shopper sharing a screen while completing a form or interacting with product images.

The communications are rich, featuring voice, video and messaging. The communications are also globally interoperable; for example, a shopper would be on the retail website using WebRTC but the retail agent could be on any public phone, anywhere in the world.

Communications inside apps

The most innovative use of WebRTC is to create new types of apps with communications embedded inside. In this case, the "conversation" is a smaller piece of a much larger pie. For example, a social sports application can be enriched with real-time communications of voice, video, presence, instant messaging and content-sharing.

The new apps and services that can be delivered with the Alcatel-Lucent WebRTC solution apply to industry verticals plus consumers and enterprises (see Figure 3).

Figure 3. Examples of communications inside apps

You can begin with any of the three approaches discussed, so that your customers enjoy a consistent and pleasant experience. They can consume services the way they want to, and it's simple, with no plug-ins or downloads.

WHAT'S IN IT FOR THE SERVICE PROVIDER?

As discussed, WebRTC enables differentiation, innovation and new strategies. But how does it drive business results for the service provider? We see five opportunities for you to grow your business.

Consumer mass market

Increase revenues and extend your brand relevancy to the Web. One way to do this is by improving your VoLTE subscribers' video calling experience by helping them to use their tablets or laptops as an extension of their smartphone. Or help your subscribers speak with their friends and families by enabling your subscribers to extend a temporary WebRTC authentication for ad hoc conversations. Use cases such as these prompt consumers to attach more devices to their shared data plans.

Large enterprise market

Earn new money by winning the enterprise away from their existing premises-equipment systems and towards the network. Do this by resetting their decision criteria with factors such as:

- The IMS network's quantifiable and sizeable cost savings over legacy premises systems
- Elimination of costly desk-phone management
- Improved employee productivity by blending IT applications and communications, which lets employees make a call from within the IT application they're using and share the application's corresponding data

Advanced communications market

Create a bigger market by linking the two communities of WebRTC and VoLTE. Increasing the number of people who can easily communicate with the latest innovations increases the value of those advanced applications and services.

Innovation

Go faster, with nimbleness that was previously reserved for Web providers. WebRTC solves an app's client problem. It lets developers focus on creating a great application.

Creating new markets

Replicate your profitable Mobile Virtual Network Operator (MVNO) business into the new market of Web Virtual Network Operators (WVNO). Apply your value proposition — industrial scaling, inter-network connections, business practices — to Web providers. Use your spare capacity and business value to sell more services.

BENEFITS OF ALCATEL-LUCENT WEBRTC

As a platform for Web innovation, the Alcatel-Lucent WebRTC solution provides three benefits:

- Our WebRTC-verified IMS provides a field-proven platform for communications that includes critical functions such as session logic, identity management, routing, security, transcoding, interconnection, operations and regulatory support. Our IMS also provides key features for voice, video, messaging and presence services.

  By complementing these capabilities with support for virtualization and cloud services, our IMS solutions put you on a clear path to agile service delivery.

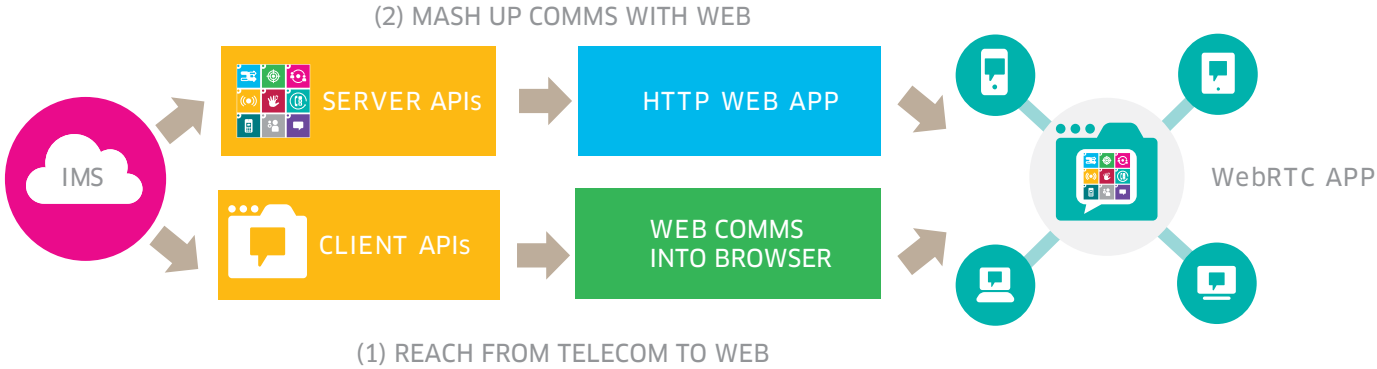
- Our WebRTC Border Controller links the Web to your network. It is implemented on our field-proven Alcatel-Lucent IP Border Controller (IBC). Purpose-built for multimedia and naturally supporting the Web, the IBC delivers superior performance through capabilities such as enhanced security, fast handling of mass registration events and enhanced Single Radio Voice Call Continuity for VoLTE.

  The IBC scales readily to support growing Web and VoLTE traffic volumes and requires half the number of session border controllers (SBCs) used for typical deployments. With our IBC, you can keep up with growing markets and enjoy OPEX savings year after year.

- Developer tools make innovation quicker and less expensive while helping you brand more robust apps and services on the Web. The New Conversation APIs turn your IMS network into a cloud-based platform for rapid Web innovation [1].

Figure 4 shows the capabilities and basic architecture of the Alcatel-Lucent WebRTC solution.

Figure 4. Capabilities and basic architecture of Alcatel-Lucent WebRTC



THE WAY FORWARD

Eventually, people will be able to communicate in any app, on any device, over any access, anywhere, any time, with anybody. To be part of that future — and part of the new conversation — service providers need to embrace WebRTC today.

The Alcatel-Lucent WebRTC solution provides rich communications and delivers better capabilities into a service provider's infrastructure at a lower cost than building separate systems dedicated separately to the Web and telecom. You'll also increase revenues by providing better services to your customers. And you'll be ready for WebRTC's continued technical and business evolution.

PARTNER WITH ALCATEL-LUCENT

Alcatel-Lucent is at the forefront of global communications. We provide products and innovations in IP and cloud networking as well as ultra-broadband fixed and wireless access. We serve service providers and their customers as well as enterprises and institutions throughout the world. Alcatel-Lucent Bell Labs, one of the world's foremost technology research institutes, is responsible for countless breakthroughs that have shaped the networking and communications industry. We have been recognized by Thomson Reuters as a Top 100 Global Innovator and named by MIT Technology Review among 2012's Top 50 "World's Most Innovative Companies.

Find out more about Alcatel-Lucent WebRTC at http://www.alcatel-lucent.com/solutions/webrtc

ACRONYMS

API	Application Programming Interface
IMS	IP Multimedia Subsystem
MVNO	Mobile Virtual Network Operator
OPEX	operating expenditures
QoE	quality of experience
VoLTE	Voice over Long Term Evolution
WebRTC	Web real-time communications
WVNO	Web Virtual Network Operator

REFERENCES

1. Alcatel-Lucent Developers' Portal, http://developer-ims.alcatel-lucent.com/
2. Disruptive Analysis, *Web RTC Market Status & Forecasts*, Feb. 2013, and June 2013 website updates, http://disruptivewireless.blogspot.com/2013/06/disruptive-analysis-webrtc-q2-update.html
3. Gartner, Gartner Says by 2016, *More Than 50 Percent of Mobile Apps Deployed Will be Hybrid*, press release, Feb. 4, 2013, http://www.gartner.com/newsroom/id/2324917
4. IDC, *Worldwide Smart Connected Device Market*, press release, March 2013 http://www.idc.com/getdoc.jsp?containerId = prUS24037713
5. Mary Meeker and Liang Wu, Kleiner Perkins Caufield Byers, slide presentation for Internet Trends D11 Conference, May 29, 2013.
   http://www.slideshare.net/kleinerperkins/kpcb-internet-trends-2013
6. Ovum, *Mobile Regional Country Forecast 2013-2018*, August 2013
7. Pyramid Research, *Smartphone Forecast*, September 2013
8. W3Counter website, Global Web Stats, August 2013, http://www.w3counter.com/globalstats.php

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