WebRTC

Is Real-Time Headed for the Big Time?

By Rahul Keerthi and Susannah Hawkins

Proprietary models of Real-Time Communication via voice, video and data are facing a significant challenge from WebRTC, an emerging technology that promises to open up real-time communication application development. A number of players have been quick to produce interesting applications using this nascent technology, but this is just the tip of the iceberg. WebRTC – like VoIP before it – has the potential to profoundly impact the communications sector in the future.

June 2014
What Is WebRTC?

**Web + Real Time Communication**

During the last decade the communications industry has witnessed an explosion in the popularity of real-time communications over IP networks. This growth has been largely driven by applications such as Skype, Lync, iMessage, and WebEx. As successful as these applications are, they are typically based on proprietary, closed platforms.

A few years ago Google acted to change the reliance on proprietary apps with a strategy that was instead based on open web technologies. In 2011, Google released WebRTC as a standardized, interoperable technology that enables real-time communication (of voice, video and data) within compatible web browsers. WebRTC is an open source project, essentially releasing the code for free.

**Why Does This Matter?**

WebRTC offers three key features that differentiate it from other platforms and will likely ensure its widespread adoption.

First and foremost, WebRTC is free-to-use and actively supported as an open source project. This gives developers the ability to innovate and produce useful web applications with a negligible financial barrier to entry. This in turn encourages experimentation with use cases and business models, critical to the rapid growth of any platform.

Secondly, WebRTC is web-based technology that is already supported by the Chrome, Firefox and Opera browsers. No plug-ins or downloads are required with these browsers, so developers have a ready-made audience across PCs, smartphones and tablets for their apps.

Lastly, WebRTC use is not limited to browsers. The technology can be embedded in other applications and network gateways offer the potential for communications between WebRTC end-points and landlines or mobile phones.

To put WebRTC into context, the last time Google launched a major open-source project with this much hype, it was Android: now the world’s most popular mobile operating system.

**Game Changer?**

The most popular use cases at present can be broadly categorised as B2C, P2P and M2M.

**Business-to-Consumer (B2C)**

One of the most novel applications of WebRTC thus far has been Amazon’s “Mayday” customer service and support button on its high-end tablet device, the Kindle Fire HDX. A press of this button connects the user with an Amazon customer care agent via an in-app interface carrying two-way audio and video.
Within Mayday, screen-sharing and remote control are also enabled, allowing the agent to manipulate settings and “draw over” the user’s screen to draw attention to anything. This presents a potentially revolutionary departure from traditional contact centre models and reflects Amazon’s desire to offer high quality customer service.

**Peer-to-Peer (P2P)**

Peer-to-peer use cases include point-to-point communications and also multi-point, for example for video conferencing.

**Enterprise Collaboration and Unified Comms**

Tethr is an example of the potential of WebRTC in enterprise unified communications. Tethr provides a platform for conference calls (with HD audio) that automatically transcribes and attributes voice to meeting participants. It also allows for video, chat, SMS, PSTN integration and screen-sharing. The service claims low deployment costs, support for multiple device types and a raft of innovative features.

**Social Networking**

Social networking is another area where we expect to see WebRTC inroads. Examples include Snapchat’s acquisition of AddLive (a significant WebRTC platform developer) in May 2014 following work the company did in developing Snapchat’s video chat feature.

In contrast to alternatives like FaceTime which is limited by OS, WebRTC provides an interoperable platform to enable “open” communication between all users irrespective of device. We anticipate free video-calling applications based on WebRTC will increasingly be offered by social networks keen to reach the widest possible audience.

**Machine-to-Machine (M2M)**

An example of WebRTC outside of interpersonal communications is Google’s Chromecast push-to-TV device. Using WebRTC, Chromecast streams content wirelessly to a local version of a Chrome browser. Viewers can use a controlling device (such as a laptop) to select the content and then multitask while the content plays on the TV.

It is applications like Chromecast and Amazon Mayday that point to the innovation potential for WebRTC beyond simple voice and video calling.

**WebRTC Ecosystem**

A variety of companies in the communications sector have committed to developing for WebRTC. They are involved in various capacities, from developing the core technology all the way to reselling complete solutions.
Established players and new entrants are investing in WebRTC to grow new revenue streams and add value to core propositions as well as positioning themselves for the potential uptake of WebRTC.

Some Telcos, such as AT&T and Telefonica, are embracing WebRTC rather than blocking it, to see how it might benefit their businesses. AT&T has released a WebRTC-based call management API via Alpha, its developer programme, which may eventually allow customers to use their AT&T number across multiple devices. It is based on technology from Voxeo Labs and Ericsson, demonstrating one way that Telcos can go to market with a WebRTC product.

Telefonica’s Tuenti MVNO offers a WebRTC-based VoIP application to customers that allowed them to make calls for free on the network, even if the user has no credit. Additionally, Telefonica owns TokBox – a WebRTC solution developer – and invests in the development of Mozilla’s Firefox browser.

New entrants include Zingaya, which offers a customer-facing product that allows a company’s website visitors to directly call a company agent from within the browser. With its release of VoxImplant – a cloud platform offering SDKs and telephony integration for RTC developers – Zingaya enables other vendors to easily produce or white-label a customer-facing product.
WebRTC Outlook

Consumers
For consumers, WebRTC will open the doors to cross-platform communication apps and we will see more examples of comms becoming embedded in other applications. The main risk to adoption is industry over-selling the capabilities at an early stage. If consumer expectations for quality and reliability are not managed, disillusionment with the technology may occur. VoIP suffered from lofty expectations and hype in its early days but has since recovered and is firmly mainstream today.

Enterprise Solutions
In enterprise communications, WebRTC will likely encourage the “cloudification” of solutions that have historically been heavy on hardware. Solutions for unified communications (UC) and customer interaction (CI) with low upfront costs will have particular appeal in the SME market.

The proliferation of WebRTC voice and video solutions may force the incumbents to accelerate the introduction of cloud-based enterprise UC and contact centres to remain price competitive. Whether the new entrants can remain independent or become acquired by the established players remains to be seen.

Operators
Many mobile operators are already experiencing declining voice and SMS revenues through OTT substitution. WebRTC may accelerate this trend, particularly if it drives adoption of integrated communications within social media networks. Strategies to mitigate the OTT impact have already been devised, so the key question that WebRTC poses for Telcos is whether they can benefit from it, and if so how.

Options to consider include using WebRTC internally to develop and launch innovative services, or following a platform strategy to foster a WebRTC developer community around their network. Opportunities for monetization are likely to be greatest in B2B and B2C applications; operators should also consider the potential role of a gateway between WebRTC and existing PSTN networks in capturing value from new services.

Conclusion
WebRTC’s continuing growth will continue to cause disruption to players across the communication sector. The industry is still feeling the aftershocks from enabling voice and video communications over IP. The impact of now bringing real-time communications to the web should not be underestimated.

While some early movers have already launched services, the market is ripe for further penetration and innovation. Crucially, all players have a small window to assess the risks and opportunities this nascent technology presents to core business.
Cartesian™ is a specialist consulting firm of industry experts, focused exclusively on the global communications, technology and digital media industries. For over 20 years, we have advised clients worldwide in strategy development and assisted them in execution against their goals. Our unique portfolio of consulting services and managed solutions are tailored to the specific challenges faced by executives in these fast-moving industries. Combining strategic thinking, robust analytics, and practical experience, Cartesian delivers superior results.

Cartesian has deep experience in assisting network operators, service providers and vendors achieve their strategic objectives. We have worked on numerous emerging technology engagements and can support across a number of areas, including:

- Technology and Opportunity Assessment
- Business Case Development
- Competitive Analysis
- Go-to-Market Strategy

www.cartesian.com

For further information, please contact us at cartesian@cartesian.com

The contents of this document are copyright © 2014 Cartesian Ltd. All rights reserved.

Cartesian Ltd. Registered in England and Wales. Registered Number: 03230513
Registered Office Address: Descartes House, 8 Gate Street, London WC2A 3HP United Kingdom