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Delivering Enterprise-Class Communications with WebRTC



Executive Overview

WebRTC is an industry standard for enabling Web browsers with real-time communications capabilities. It enables enterprises to enhance Web sites, empower BYOD users, and improve video collaboration and on-line meetings, to name but a few examples. WebRTC helps IT organizations accelerate time to market and contain costs by breaking vendor and platform dependencies. And it enables better user experiences by eliminating cumbersome browser-specific vendor application plug-ins.

WebRTC introduces a variety of connectivity, security, and control challenges for corporate IT planners. Oracle Communications WebRTC Session Controllers are specifically designed to bridge the Web world with the enterprise VoIP and unified communications (UC) world and to ensure secure and reliable enterprise-class communications. This paper reviews WebRTC applications and explains how Oracle Communications WebRTC Session Controllers help enterprises reap all the benefits of browser-based communications without compromising security, reliability, or service quality.

WebRTC Brings Real-Time Communications to the Browser

WebRTC (Web Real-Time Communications) is an open standard for embedding real-time multimedia communications capabilities directly into a Web browser. Prior to WebRTC, there were no standard methods for enabling interactive communications in a browser environment. Developers relied on plug-ins like Adobe® Flash® or custom browser extensions that required cumbersome downloads. Poor user experiences combined with a lack of standards and multivendor interoperability inhibited the widespread adoption of browser-based communications.

WebRTC is a standard drafted by the World Wide Web Consortium (W3C) and the Internet Engineering Task Force (IETF) to overcome these adoption barriers. The open standard framework eliminates the need for special-purpose client software and onerous plug-ins and downloads. Instead, interactive voice, video, and data-sharing functions are delivered as standard components of the Web developer's toolkit. Ordinary Web developers, who aren't necessarily versed in telephony, can create multimedia communications-enabled applications using simple HTML and JavaScript APIs. And end-users enjoy an improved experience with no interruptions for downloads, consistent operation across devices and browsers, and immersive communications capabilities.

WebRTC is backed by a broad ecosystem of interoperable applications. Leading browser providers such as Google (Chrome™), Mozilla® (Firefox®) and Opera™ include WebRTC engines in their latest

releases. And many communications solution providers and ISVs leverage WebRTC in enterprise, contact center, and customer service applications.

Browser-Based Communications Eliminates Cost and Complexity

By breaking vendor and platform dependencies, WebRTC fundamentally transforms enterprise communications. Until now, businesses have been held hostage to expensive PBX desk phones and proprietary softphone clients. While legacy IP-PBX and UC vendors support open standards such as SIP (Session Initiation Protocol), many lock in customers and maximize product margins by reserving full-feature support for proprietary endpoints and separately licensed softphone clients.

With more and more workers using smartphones as their primary handset, expensive PBX desk phones are becoming increasingly difficult to justify. What businesses need instead is a way to make smartphones and tablets full-fledged alternatives to traditional PBX phones. But traditional solutions for extending enterprise communications services to mobile devices are costly and inefficient. Most UC vendors offer operating-system-specific soft clients that take time and money to qualify, deploy, and support.

WebRTC overcomes these limitations by bringing real-time communications directly to the browser, eliminating special purpose, OS-specific clients. With WebRTC, IT organizations can accelerate time-to-market and contain costs by efficiently extending enterprise communications services to any browser-enabled device – smartphone, tablet, or PC. Users can access the WebRTC-enabled service over any network – public or private; WiFi, mobile broadband, or wired LAN.

WebRTC reduces upfront IT expenses by containing client licensing fees, qualification efforts, and deployment costs. There are no proprietary clients to purchase, roll out, update, or support. The client application runs on an off-the-shelf “free” browser. Qualification, deployment, and maintenance costs are contained to the Web site. New features and fixes are implemented right on the Web page.

Oracle Communications WebRTC Session Controller Ensures Enterprise-Grade Service Quality for Browser-Based Communications

WebRTC introduces a variety of connectivity, security, and control challenges for corporate IT planners. Oracle Communications WebRTC Session Controller is specifically designed to accelerate WebRTC initiatives and to ensure enterprise-grade service quality for Web-based communications.

Key Oracle Communications WebRTC Session Controller features include:

- Flexible protocol interoperability to interwork diverse signaling and media methods employed in the Web and enterprise IP communications domains
- Strong security to protect signaling and media flows associated with WebRTC endpoints
- Stateful session management to maintain session continuity in the event of network timeouts and hand-offs, browser resets, or page reloads
- Media anchoring to enable fixed mobile convergence, move calls between endpoints, facilitate integration with enterprise UC elements (e.g. session recorders, IVRs, media servers), and other advanced service orchestration functions
- Network address translation (NAT) and firewall traversal

Case Study: Cable Company adds Interactive Communications to Customer Portal

A cable company implemented WebRTC to add real-time communications capabilities to a platform-independent self-install portal. New cable subscribers can initiate voice or video sessions with customer service agents, directly from the application to efficiently resolve installation challenges or troubleshoot set-up issues. For example a customer can establish a video session from a smartphone, allowing a service representative to visually verify the cable set top box is properly connected. Customer service agents are automatically supplied contextual information to streamline troubleshooting tasks (i.e. identify where an installation stalled).

The cable company implemented Oracle Communications WebRTC Session Controllers to efficiently add Web-based communications support to its SIP-based contact center infrastructure. The Oracle solution bridges the Web and SIP environments and enables secure and reliable communications.

Benefits

- **Lower operating expenses** – the self-install portal reduces truck rolls and minimizes support burdens
- **Greater customer satisfaction** – real-time service center interactions enable faster and more efficient problem resolution and rapid cable set-up
- **Rapid time-to-market** – Oracle Communications WebRTC Session Controllers simplify portal rollout and ensure high reliability and service quality for voice and video sessions

Case Study: Retailer Improves Conversions with Real-Time Communications

A retailer added real-time communications to its Web site to enhance customer service. Shoppers initiate WebRTC-based voice or video chat sessions with contact center agents to ask questions about products, orders or services. Agents are automatically supplied contextual information—the Web page the shopper is visiting, past purchase history, pending order status, etc.—to streamline customer assistance and lay the foundation for upsell opportunities.

The retailer deployed Oracle Communications WebRTC Session Controllers to accelerate the WebRTC implementation. The WebRTC Session Controllers unify the Web and enterprise communications domains and let the company enjoy all the benefits of real-time voice and video interactions without sacrificing security or service quality.

Benefits

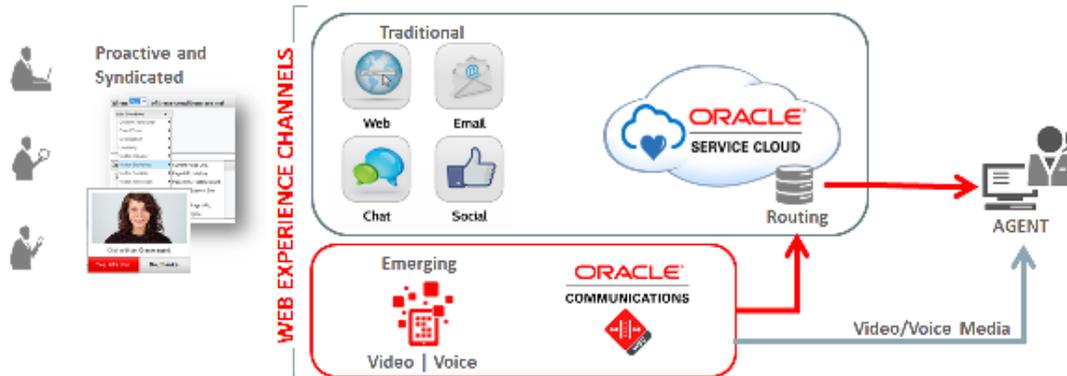
- **Higher conversion rates** – interactive customer engagements reduce shopping cart abandonment, increasing conversion rates and revenues
- **Improved customer loyalty** – real-time communications provides better customer experiences, resulting in more repeat business
- **Rapid service deployment** – Oracle WebRTC Session Controllers accelerate time-to-market and ensure enterprise-class service quality for Web-based voice and video sessions

Deliver Comprehensive Multichannel Experiences with the Oracle Service Cloud

The Oracle Communications WebRTC Session Controller is the perfect complement to the Oracle Service Cloud—Oracle’s cloud based cross-channel customer engagement solution. Leveraging real-time browsing statistics, data analytics and business logic the Oracle Service Cloud efficiently routes customers to the right agent at the right time through Web, email, chat or social media channels.

The Oracle Communications WebRTC Session Controller brings real-time voice and video communications options to customer engagements. For example a customer can “escalate” a text chat to a voice or video session to resolve a complex issue. By combining the Oracle Communications WebRTC Session Controller with the Oracle Service Cloud enterprises can deliver immersive user experiences that blend traditional engagement channels with real-time communications to enhance sales and customer service interactions.

Oracle Service Cloud with WebRTC Session Controller



The Oracle Service Cloud provides the context and intelligence to connect customers to agents through web, email, chat and social channels. The Oracle Communications WebRTC Session Controller (WSC) enhances customer interactions with voice and video communications.

Conclusion

Forward-looking businesses are implementing WebRTC-based applications to improve enterprise communications. By eliminating platform and vendor dependencies, and bringing real-time voice, video, and collaboration directly to the browser, WebRTC enhances customer experiences and increases employee productivity while eliminating cost and complexity. Oracle Communications WebRTC Session Controllers efficiently extend corporate VoIP and UC services to the browser, helping organizations unleash the full potential of browser-based communications without compromising security or reliability.



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Hardware and Software, Engineered to Work Together