

WebRTC: Future-Proofing Communication, Securely

Web RTC

Why Is WebRTC Considered Disruptive?
How Does It Really Work?

This white paper examines the top benefits of WebRTC for business, analyzes any concerns with WebRTC's security and describes the most important factors that a company should take into account before adopting WebRTC.

What Is WebRTC?

WebRTC (Web Real-Time Communication) is an open-source project composed of a set of communication protocols and JavaScript APIs that aim to provide the web with high-quality real-time communication capabilities. In other words, WebRTC makes it possible for web browsers to transfer audio, video and data live via a peer-to-peer connection without the use of any plugins.

WebRTC began as an open project by Google back in 2011. Its APIs are actively defined and standardized by W3C (World Wide Web Consortium). Currently, WebRTC is supported by Google Chrome, Mozilla Firefox, Opera, and Safari web browsers on PC and Android. Windows 10 versions are also available.

What Makes WebRTC Disruptive?

Many web services have supported RTC (real-time communication) in some way for a long time, so what is so disruptive about WebRTC? Let's see in detail what makes WebRTC different:

- WebRTC does not rely on any proprietary plugin; its components are **natively integrated into web browsers** and can be accessed via standard JavaScript APIs, allowing developers to provide websites and web applications with real-time audio, video and data transfer capabilities.
- Natively integrated audio and video means that in order to start a call from WebRTC-enabled applications and websites, users no longer need to waste time on installing, updating and troubleshooting plugins. **No more Java Applets:** all that users need to do is enable access to their microphone and webcam.
- Since WebRTC is compatible with VoIP and UC solutions, it can be integrated into a company's existing telephony infrastructure to **extend unified communications capabilities beyond the confines of an enterprise to customers, partners and suppliers**. In other words, external users can benefit from UC features such as presence, chat, audio, video, conferencing, data transfer and screen sharing to interact with the company over the web using only a web browser.
- WebRTC **responds to bandwidth availability**, detecting and avoiding congestion and mitigating the effects of packet loss. It includes adaptive jitter buffers, echo cancellation and other components for audio and video, delivering the best possible quality of communication regardless of changing network conditions.

Benefits of WebRTC for Business

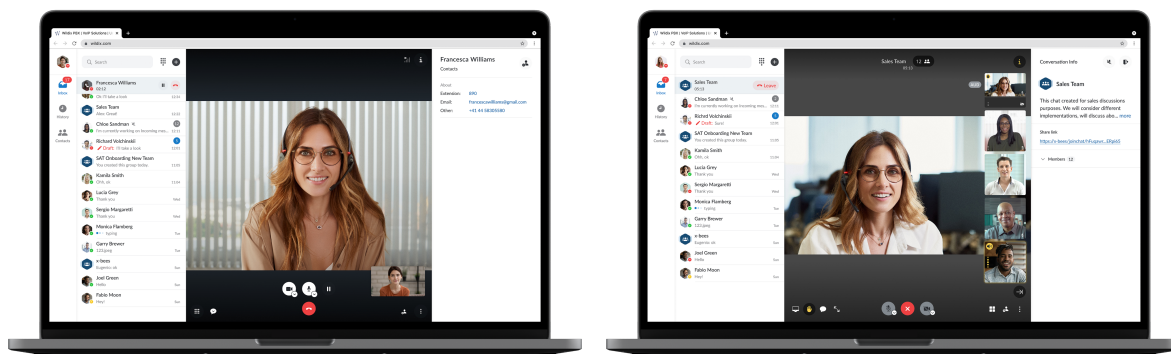
#1: Streamline Collaboration through Video Conferencing

It is quite common for companies today to have remote teams, including employees working from home or elsewhere, or collaborators who often travel, go to customers or roam between different sites of the company.

For many companies, **video conferencing is no longer an option but a must-have**, and the only way for remote teams to collaborate efficiently and reduce unnecessary traveling.

But video conferencing solutions are not all made the same. Let's see which advantages a WebRTC-based video conferencing offers compared to other solutions on the market:

- Proprietary video conferencing solutions are expensive and complicated. With WebRTC, a video conference takes place on the web, allowing users to connect instantly without having to install, download or update any plugins, or use expensive hardware.
- WebRTC can be integrated into a UC&C platform in a way to allow users to extend a point-to-point chat conversation or an audio call to a multipoint video conference at any time.
- External users (customers, suppliers, freelancers) can be invited to enter a video conference room using a web browser.



#2: Enhance Customer Interactions With Free Click2Call

Customers may decide against a company for different reasons, but one thing is for sure: a customer who has difficulty contacting the company won't be happy, and they'll be more likely to opt for a different brand.

WebRTC offers some unique features that significantly improve the customer interaction:

- Having to download, install, update and troubleshoot plugins and clients can be a complicated process. With WebRTC, you can reduce hassle and save time by providing your customers with a fast, easy and plugin-free way to contact your company over the internet.
- With customer auto-authentication and login via social networks, you can add a personal approach to the way you communicate with customers. Integrating WebRTC with the UC system also allows you to route the customer to the right agent or department instantly.
- Simplify your customer interactions by offering file exchange and screen sharing capabilities. The option to exchange files or start a screen sharing session right during a call or a chat session (without having to use external applications) can significantly streamline sales and support processes.

#3: Leverage Your Website to Bring in New Customers

A customer who has found your company on the web expects to be able to contact the company in the same way — **over the web and using the browser** — without having to resort to a different means of communication (such as writing an email or dialing a phone number).

If your website doesn't offer direct means for customer interaction, clients are more likely to choose a different company.

WebRTC makes your website truly interactive and helps you to convert occasional visitors into potential customers.

Here is what WebRTC can do for websites:

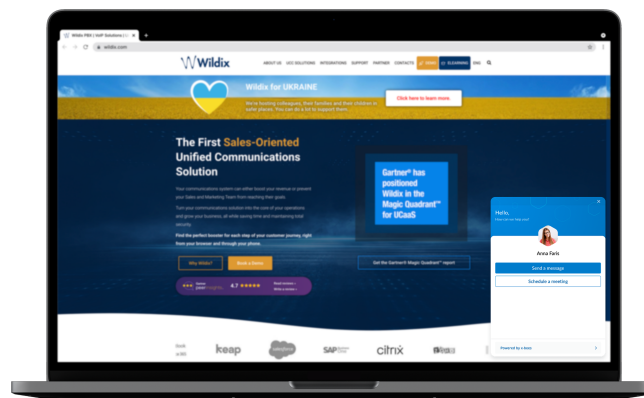
- Needless to say, WebRTC is very useful for e-commerce, as it drastically **decreases the cart abandonment rate** by facilitating contact. In addition, company call agents can know which web pages the visitor has been navigating at that moment and be more efficient in providing their customer service.

Here's how Tempur-Pedic® has increased their e-commerce sales share by double digits:

"We no longer miss any requests. Our clients love the Live Chat service because it's easier for them to ask for information."
— Antonio Carlà, website/e-commerce manager, Tempur Italy



- With real-time contact options, potential customers are more likely to initiate contact with the company. A free click-to-call solution on the website greatly increases and facilitates contact with those customers **who are potentially interested in a product or a service or who are ready to buy**.



WebRTC and Security

Since WebRTC is an open-source project, many people question its security. Is WebRTC really safe?

Let's start with the fact that WebRTC is not a plugin or a program that you install on your PC, which means WebRTC communications cannot be affected if your PC gets infected by a virus or a spyware.

WebRTC allows data to pass from browser to browser, so your calls and video chats do not rely on any software. The security of WebRTC communications is contained directly within your browser.

Let's take a closer look into WebRTC built-in security features:

- WebRTC offers **end-to-end encryption** which ensures the protection of user data.
- All the data that is transferred with WebRTC is encrypted using **Datagram Transport Layer Security (DTLS)** protocol (so-called "handshakes" performed between two clients who are establishing the communication).
- WebRTC also uses **Secure Real-Time Protocol (SRTP)** to protect media and ensure that IP communications are kept private.
In fact, many VoIP and UC providers still use a less secure version of the protocol, RTP (Real-Time Transport Protocol), because implementing SRTP requires significant changes to their software. The WebRTC project, meanwhile, implemented SRTP from the very start.
- Before starting communication, WebRTC requires users to provide **access to their microphone and webcam**.

Considerations Before Adopting a WebRTC Solution at Your Company

WebRTC brings enormous benefits to businesses by providing innovative communication and collaboration tools that were not possible even a few years ago. However, as we saw in this white paper, WebRTC does much more than create a simple chat application or a click-to-call button.

A proper implementation of WebRTC means that WebRTC will be fully integrated into your UC&C infrastructure. Bear in mind, however, that communication between VoIP and WebRTC endpoints is not fully supported in some cases.

To ensure full compatibility between VoIP and WebRTC endpoints, you have to choose a **communication system that has properly incorporated WebRTC standards** into a UC&C platform.

About Wildix

Wildix was established in 2005 by Steve and Dimitri Osler and focuses on solutions for businesses with 50 to 1,000 employees, delivering them through our partners. Our partners are carefully chosen and fully certified so that they can provide you with the best solutions for your needs as part of a comprehensive package.

We have offices in the United States and across Europe, giving you the support you need for your systems. Our focus remains on building the best software that's 100% secure and delivering the collaboration tools you need to take advantage of the latest UC&C technology.

When you use Wildix, you use a system that's been validated by the foremost experts in the tech market. Gartner, a company that delivers actionable, objective insight to executives and their teams, has positioned Wildix as a Niche Player in the 2021 Gartner Magic Quadrant™ for Unified Communications as a Service, Worldwide.

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