Choosing a WebRTC API Platform

11th Edition, September 2022

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Editions and Updates to the Report

Eleventh Edition Updates (September 2022)

This is the eleventh update of the report.

The following changes have been made in this version:

1. New WebRTC API Platform vendors have been added to the analysis: Dyte, Sendbird and ZEGOCLOUD; this brings this report to the coverage of 25 active platforms
2. I had to take out Kandy, as they are focusing on being a CPaaS enabler and less on offering solutions directly to application developers
3. OnSIP has been unresponsive for the last two years. I decided to remove them from the report
4. Vidyo and Temasys have been unresponsive in this update. Changes made to their profiles were based on website data and public announcements
5. Features and Capabilities – Embed has been renamed to Prebuilt

Tenth Edition Updates (September 2021)

This is the tenth update of the report.

The following changes have been made in this version:

1. A new WebRTC API Platform vendor has been added to the analysis: 100ms; this brings this report to the coverage of 24 active platforms
2. Exits. I had to take out Apidaze, as they are shifting focus to other areas
3. OnSIP has been unresponsive. I decided to leave them in the report for this round
4. Bistri renamed to Linkello Core
5. A new chapter about WebRTC Platform Trends in 2021 has been added
6. Features and Capabilities of vendors has changed in structure for this edition
    a. Presence and Instant Messaging has been replaced with Chat
    b. Introduced Embed
    c. Multipoint has been wrapped into a new section about Media Processing (Server Side), along with features usually mentioned under Additional Capabilities
    d. A new set of capabilities have been introduced under Media Processing (Client Side)
    e. SMS capabilities have been removed
    f. To learn more, refer to the Feature Set section of this report on page Feature Set
7. Outlier vendors have been merged into the Inactive vendors section
8. A membership site has been added to this report. It includes additional articles and resources, such as the calculator, visuals and selection blueprint
9. Appendices have been removed from the report. These topics are now covered as articles inside membership site

Ninth Edition Updates (October 2020)

This is the ninth update of the report.

The following changes have been made in this version:

1. 7 new WebRTC API Platform vendors have been added to the analysis: 8x8 JaaS, Amazon Chime SDK, Azure Communication Services, Bandwidth, Daily, EnableX and LiveSwitch Cloud; this brings this report to the coverage of 24 active platforms
2. M&A. Multiple acquisitions took place since the report was last updated
    a. VoIP Innovations (owner of Apidaze) was acquired by Sangoma
    b. Apizee was acquired by KEYYO
    c. Kandy is in the process of being acquired from Ribbon Communications by AVC technologies
    d. OnSIP was acquired by Intrado
    e. Dolby acquired Voxeet and introduced Dolby.io. These changes are reflected in the analysis in the removal of Voxeet and introduction of Dolby.io
    f. Enghouse acquired Vidyo, shifting its focus from cloud to no premise
    g. Vonage rebranded its Nexmo/Tokbox offering as Vonage Communications APIs
3. Exits. I had to take out a few vendors from the report
    a. Circuit was taken out of the vendors list as Atos, its owner, stopped selling it to new customers
    b. CafeX was taken out of the vendors list. It has pivoted over time towards a SaaS collaboration platform, which is not the focus of this report
    c. Phenix was taken out of the vendors list. Its focus is broadcasting, which while some of the vendors in this report offer, this is not the focus of this report
    d. Bit6 was unresponsive and removed from the report
4. Appendices got updated, with several of them removed and a new Appendix section on the effects of the pandemic was added

Eighth Edition Updates (April 2019)

This is the eighth update of the report.

The following changes have been made in this version:

1. A new WebRTC API Platform vendor has been added to the analysis: SignalWire; this brings this report to the coverage of 21 active platforms
2. Vonage acquired TokBox, wrapping them into their Nexmo platform/acquisition. This change is reflected in the analysis in the removal of TokBox and introduction of Nexmo
3. Updates in features and capabilities have been made to the following WebRTC API Platform vendors information: Agora, Apidaze, Apizee, CafeX, ECLWebRTC, Phenix, Plivo, Twilio, Voximplant
4. Minor updates have been made to the following WebRTC API Platform vendors information: Circuit, Temasys, Vidyo

Seventh Edition Updates (December 2017)

This is the seventh update of the report.

The following changes have been made in this version:

1. 2 new WebRTC API Platform vendor has been added to the analysis: ECLWebRTC by NTT Communications and Phenix; this brings this report to the coverage of 20 active platforms
2. Tropo closed its service to new customers, gaining it a place in the Inactive API Platform Vendors section
3. Xura silently closed Forge, making it the second vendor to join the Inactive API Platform Vendors section
4. TrueVoice by Voxeet is now Voxeet. The company has pivoted and is focused on APIs
5. Updates in features and capabilities have been made to all relevant vendors in the report
6. The Tooling vendors section of The WebRTC Ecosystem chapter have been replaced with a more detailed explanation in the form of The WebRTC Developer Tools Landscape
7. A new appendix covering pricing models has been added – Appendix H

Sixth Edition Updates (March 2017)

This is the sixth update of the report.

The following changes have been made in this version:

8. 3 new WebRTC API Platform vendors have been added to the analysis: Agora, Vidyo and TrueVoice by Voxeet; this brings this report to the coverage of 20 active platforms
9. As vendors are acquired and taken off market, shutdown or just become unresponsive to the extreme, it made sense to split the vendors section into two parts – active and inactive ones
10. Some vendors pivot, serving an adjacent market, while others still offer an API Platform that isn't as generic as the rest, but fits specific market segments. A few examples were added in a new section, dealing with Outlier API Platform Vendors
11. SightCall switched focus towards its Visual Assist service; Respoke now looks inwardly at its Digium's Switchvox customers. Both are no longer service the more generic API market. These are now populating the new chapter of Outlier API Platform Vendors
12. AT&T closed their WebRTC API activity; ooVoo stopped catering for developers; this has been reflected by moving vendors covered in the past to a new Inactive API Platform Vendors section
13. Updates in features and capabilities have been made to all relevant vendors in the report
14. A new appendix covering multiparty video calling technologies has been added

Fifth Edition Updates (May 2016)

This is the fifth update of the report.

The following changes have been made in this version:

15. A new WebRTC API Platform vendor have been added to the analysis: QuickBlox; this brings this report to the coverage 24 platforms
16. Comverse acquired Acision and then rebranded as Xura. These changes are reflected in the analysis of both forge by Acision (now forge by Xura)
17. Updates in features and capabilities have been made to the following WebRTC API Platform vendors information: AT&T, forge, Sinch, TokBox, Tropo, Twilio and Voximplant
18. Minor updates have been made to the following WebRTC API Platform vendors information: Apidaze, Apizee, Bit6, CafeX, Circuit, Kandy, ooVoo, Plivo, SightCall and Temasys
19. A new KPI has been added to the vendors covered in the report – their track record in investing in the platform
20. Microsoft Edge support is mentioned as an "afterthought" in the notes of the vendor features covered. This is due to the lack of popularity of Edge at the moment and may change in future updates of the report
21. A new vendor selection blueprint has been added to the downloads section on the members' area. This blueprint can serve as a worksheet when deciding on which platform to pick
22. Report visuals have been redesigned
23. Added a new Report Tools section, listing the additional tools provided alongside this report, including the list of archived Virtual Coffee sessions

Fourth Edition Updates (September 2015)

This is the fourth update of the report.

The following changes have been made in this version:

5. New WebRTC API Platform vendors have been added to the analysis: AT&T, Bistri, Bit6 and Circuit by Unify; this brings this report to the coverage 23 platforms, two of them acquired and taken off-market
6. Cisco acquired Tropo and Comverse acquired Acision. These changes are reflected in the analysis of both Tropo and forge by Acision
7. Updates in features and capabilities have been made to the following WebRTC API Platform vendors information: forge by Acision, Sinch, Temasys and TokBox
8. Minor updates have been made to the following WebRTC API Platform vendors information: Apizee, CaféX, ooVoo, Plivo and Voximplant
9. From now, video sharing capabilities are added as a feature specifically covered per WebRTC API Platform vendor
10. Added embedding a service as another approach for development using WebRTC
11. Appendix D, covering acquisitions of WebRTC API Platform vendors, has been updated with all the acquisitions in this space, and a better analysis of WebRTC versus BaaS
12. Added a new appendix about the announcements made by Twilio at its Signal 2015 event and the way Twilio is redefining cloud communications APIs
13. Additional further reading links were added in various sections throughout the report
14. A new membership site has been created, where additional material as well as monthly online meetings can be found

Third Edition Updates (March 2015)

This is the third update of the report.

The following changes have been made in this version:

1. New WebRTC API Platform vendors have been added to the analysis: Kandy, OnSIP, ooVoo and Respoke; this brings this report to the coverage of 19 platforms, two of them acquired and taken off-market
2. Requestec was acquired by Blackboard. The Requestec platform information has been left in the report as reference
3. Updates in features and capabilities have been made to the following WebRTC API Platform vendors information: Acision, CafeX, SightCall, Sinch, Temasys, TokBox, Twilio and Voximplant
4. Minor updates have been made to the following WebRTC API Platform vendors information: Apidaze and Apizee
5. easyRTC by Priologic has been removed, as it didn't really fit into the WebRTC API Plaform domain, leaning more towards the signaling frameworks domain
6. Added a chapter on the dynamics in the WebRTC API Platform vendors market
7. Added a new appendix about service unbundling in WebRTC API Platforms
8. Additional further reading links were added in various sections throughout the report

Second Edition Updates (September 2014)

The initial version of the report has been released in mid-April 2014. Now, after 4 months, there are sections that required updating.

The following changes have been made in this version:

1. New WebRTC API Platform vendors have been added to the analysis: Apizee, Forge and Sinch; this brings this report to the coverage of 16 platforms
2. AddLive was acquired by SnapChat. The AddLive platform information has been left in the report as reference and an additional appendix analyzing the acquisition and its implications to the rest of the WebRTC API Platforms have been added
3. Weemo changed its name to SightCall
4. Updates have been made to the following WebRTC API Platform vendors information: Apidaze, CaféX, EasyRTC, OpenClove, Plivo, Temasys, TokBox, Twilio, Voximplant and Weemo
5. The 2nd Market use case example was changed from TNW Academy to Intuitive Solutions
6. Additional further reading links were added in various sections throughout the report

Near the release of this updated version, a few more potential players have joined the WebRTC API Platform game. For now, they are not covered. In the next update of this report, they may be added, depending on their stability and type of offering. These vendors include Bistri, Hookflash, Kandy by GENBAND, ooVoo and Respoke.

Introduction

What is this report all about?

You decided to use WebRTC for your next service. You have a validated business case, some money to spend, a roadmap of sorts and a few developers.

Do you throw them at the task of building it all or will you be looking for shortcuts along the way?

Do you know to define what it is that you intend to solve?

Are WebRTC and the real-time communication component in your service core to what you plan on introducing, or is it just means to an end?

These are not easy questions to answer, and by answering them, you might decide that you need some assistance in the implementation side of things from an existing platform that takes a lot of the headaches from you.

This report is intended in assisting you in making that decision, and in making a more educated decision about which WebRTC API platform to use at the end of the day.

Key Findings

- Developers who need communication features today are in a better shape than they were a few years ago, before WebRTC was introduced. There are multiple options for them to get going, which makes it possible for most developers to find a suitable solution for their application
- The WebRTC API Platform space is evolving. Differentiation between platforms is becoming the key selection factor in many cases
- There is no 1-size-fits-all in WebRTC API Platforms, and it is unlikely that such a platform will be available in the foreseeable future. Each use case has one or more platform vendors that can be used to enable it, but the platform vendors will vary from use case to use case
- The selection process of a WebRTC API Platform is an important one, which will greatly affect the success factor of developing and maintaining a communications service

Is There a 1-Size Fits All?

When I set out to write this report, my basic assumption was that 2-3 of the WebRTC API Platforms cover every possible option and the rest are just white noise – platforms that will be bought out of the market or die through starvation of funding and revenue.

The more interviews I did with the platform vendors, the more I understood that there is a place for all the platform vendors publicized in this report. Each had its own angle to the market – his own differentiation – a reason why I would rather select his platform than anyone else to get a specific service up and running.

That unique parameter was sometimes based on feature set, other times on the vendor's size and financial stability, global coverage of its service, etc.

This makes the selection process of a suitable platform both critical and challenging. This report should shed some light on the process and the various WebRTC API Platform vendors out there.

At the end of the day, there is no single platform that covers all possible use case. Each use case and service are unique.

Who Am I Anyway?

My name is Tsahi Levent-Levi. I am a developer at heart. I have been working in the telecom and VoIP/UC industries of the past 20 years (and counting) in various roles: from a developer to project manager, product manager and CTO. Most of that time, I was dealing with signaling and media products that were licensed to other developers who built their own products with them. This gave me a broad view of the market and an understanding of the challenges and opportunities that exist in the domain of VoIP.

I came across WebRTC when it was first announced by Google and saw the potential in it. Since then, I have been watching the WebRTC space closely and writing about it on my blog: BlogGeek.me. From a hobby it became a "profession".

Today, I provide consulting services around WebRTC, CPaaS and ML/AI in communications, as well as offering an online course on WebRTC (webrtccourse.com).

I act as Chief Product Officer at Spearline, after its successful acquisition of testRTC, a company developing a testing, monitoring and support platform for WebRTC applications. I was the Co-founder and CEO of testRTC prior to the acquisition.

Structure of the Report

This report is split into several chapters:

Report Tools

This chapter lists the additional tools provided as part of this report, geared towards assisting you in better understanding the WebRTC API market dynamics and with your vendor selection process.

What is WebRTC

This chapter focuses on bringing you up to date about WebRTC, focusing little on the technology and a lot more on the vibrant ecosystem that have been created around WebRTC.

The ecosystem discussion is the only part of this report that can also be found in my other report "WebRTC for Business People".

Challenges in WebRTC Service Development

This chapter outlines the different challenges developers face when they need to build a commercial service with WebRTC. While WebRTC is an excellent technology, it does leave a lot out for the developers to figure out and develop.

Approaches to Developing WebRTC Services

This chapter lists the different alternatives developers take when building their WebRTC service. Each of the alternatives is described along with its strengths and limitations.

Special treatment is given to the issue of possible "vendor lock-in", which concerns many vendors

Dynamics in the WebRTC API Platforms Market

This chapter details the story of the WebRTC API Platforms market throughout the time. It goes in brief over the changes seen – new entrants as well as acquisitions made.

WebRTC API Platform KPIs

This chapter describes the key performance indicators that WebRTC API Platforms can be measured by. It does so from many angles including:

- Focus
- Feature set
- Deployment options
- APIs
- Documentation
- Support
- Self-service
- Business model
- Financial, legal
- Track record

Developers deciding to use a WebRTC API Platform need to decide which KPIs are important to them and focus on these KPIs in their vendor selection process.

API Platform Vendors

This chapter provides a comprehensive view of popular WebRTC API Platform vendors, their offerings and features. Vendor information was collected manually, through meetings conducted with each vendor, going through their website, backend portal, developer community and documentation. This information can be used by developers to filter out and zoom in to the vendors that would fit them the most before going to the proof-of-concept and final selection process of a platform to use.

Inactive API Platform Vendors

As time progresses and this report gets updated, there are new vendors that join the market, but also vendors that exit the market.

This chapter acts as a graveyard for the vendor profiles of those who were covered by a previous version of this report but are no longer active in this space. This inactivity can be due to closure of the company or service, acquisition or just a change in focus.

Appendixes

The report also contains a few appendixes that provide additional case studies around the use of API platforms and the importance of making the right choice to fit your needs.

Further Reading

My services include consulting, free articles and posts, newsletters and paid reports.

Throughout this report, you will see "Further Reading" sections, like the example below.

> ☞ *Further Reading*
>
> - First article
> - Second article
> - …
> - Last article

Such further reading section offer links to additional information that exist in the web – either from my own writings or from other authors. Feel free to check this additional information at your own leisure.

Membership Site and Tools

The Choosing a WebRTC API Platform Report comes with a membership site that gives you access to additional articles, resources and tools.

Access to the membership site is done view the WebRTC Course site. If you don't have the account information to access these additional articles, please contact us at https://bloggeek.me/contact.

Within the membership site, you will find the following content.

Additional articles

There are additional articles that get written from time to time and shared with report readers. These didn't find a suitable place within the report, so were added to the membership site itself.

At the time of writing, the articles include:

- Service interruption case study
- Acquisitions of Platform Vendors
- Twilio and the Redefinition of the Communication API Space
- Flow and Embeddable
- Pricing models
- CPaaS and the Pandemic

Presentation Visuals

A Microsoft PowerPoint deck containing all the visuals and tables from this report.

You can use the visuals in this PowerPoint deck for your own internal presentations at your company.

Vendor Selection Blueprint

A Microsoft Word and Excel sheet, guiding you through the vendor selection process.

This blueprint also includes an example of such a vendor selection process, to ease your own.

Pricing Calculator

A Microsoft Excel Sheet that can be used for rudimentary price comparisons between the different vendors.

You can use this pricing calculator to compare between the various vendors to see how they differentiate from one another.

CPaaS 2020 eBook

In 2020 I wrote an extensive eBook about the trends that are causing some long-term tectonic shifts within the bigger CPaaS industry.

The 3 trends covered are:

1. The pandemic, raising all boats
2. IaaS vendors getting into the CPaaS space
3. Twilio and how it is shaping the market

This eBook is available for download as part of the membership site and is as relevant as ever.

Lowcode & Nocode in Communication APIs

In 2022 I wrote an eBook about the introduction of Lowcode and nocode services into Communication APIs. An important part of this trend is the relatively new introduction of Prebuilt approaches for programmable video APIs.

This eBook is available for download as part of the membership site.

What is WebRTC?

WebRTC stands for Web Real-Time Communication. It is the fusion of two separate branches in technology: VoIP and the web.

VoIP, short for Voice over IP, is a set of technologies and techniques that enable sending media (usually voice and video) over an internet connection. Up until the introduction of WebRTC, VoIP lived within its own ecosystem silo, next to the booming Internet we are accessing daily via web browsers.

WebRTC comes to connect VoIP into our browsers, and by that, into websites and mobile apps. It does that by offering a thin layer of JavaScript APIs that are implemented by modern web browsers and are part of the HTML5 specification.

This means that now every web developer can add real time communication capabilities to his website or web application.

☞ *Further Reading:*

- What is WebRTC and What is it Good For?
- WebRTC servers explained
- WebRTC for Business People report
- Is WebRTC Open Source or Not?
- The history of WebRTC inside Google [Quora]
- WebRTC is Ready. Now What?

Two important aspects of WebRTC:

- It is free
- It changes the definition of VoIP developers

Together, they lower the barrier of entry for communication services to a level that enables use cases that were always required but never fulfilled by previous technologies.

You should note that this report focuses on the API platforms. If you have gaps in understanding the basics of WebRTC and the ecosystem it creates, you should also read the "WebRTC for Business People" report, which is freely available on my website.