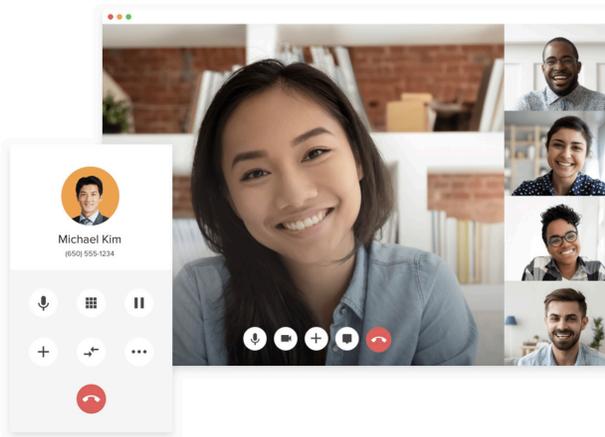


Visualizing the Future of Unified Communications

It wasn't clear 20 years ago if cloud-delivered communications would evolve to meet the demands of an enterprise. Now we know that it can and does, but at first, realistically, it didn't. Over time, however, the services evolved to be more reliable and feature-rich, while broadband networking availability expanded to more locations.

RingCentral has been a pioneering force in cloud communications. RingCentral has pulled ahead of the herd by delivering excellent quality and a broad suite of communications solutions. It took decades to build out its world-class service, balancing the needs of a growing business, a scalable architecture, and operational processes. It built a solid platform with years of innovation and fine-tuning that addresses the needs of organizations of all sizes around the globe. Today, RingCentral offers a highly reliable, high-quality cloud-delivered telephony service.

Early in its evolution, RingCentral realized the importance of video communications. Through a pioneering partnership with Zoom, it aimed to create a best-of-breed collaboration for telephony and video. These two market-leading solutions were bundled to address the needs of enterprise communications. However, this unified vision, similar to that offered across providers, was only an illusion. The RingCentral app caused Zoom to load when needed — and ultimately, rather than create a truly unified experience, the alliance simply paired two applications. The partnership addressed a market gap, but the integration and experience were still limited.



Now, RingCentral has released RingCentral Video (RCV), and the timing is right.

The Time Is Right

UCaaS is expanding beyond its telephony roots to include three core, unified components: message, video, and phone. RingCentral built out and created its telephony solution and offers its own leading messaging solution. Now, RCV becomes a core

component of RingCentral Office, enabling a more unified and agile UCaaS user experience.

The combined, or unified, service means a single experience provided by a single vendor. It means voice calls and meetings will use the same client and user interface and share common resources that transition conversations seamlessly from voice to video. Users will benefit from a more intuitive and contextual experience. Administrators will benefit from a secure, unified portal for administration, reporting, and analytics.

Online or virtual meetings have been growing in popularity for years. That is one of the findings from a recent survey where 62% of users reported being in more virtual meetings today than two years ago. Employees now spend a month (5 weeks) per year in virtual meetings, and 75% of employees are in at least one virtual meeting a week. Unfortunately, 62% complain that the join process is challenging and cite familiar frustrations such as poor or incomplete connect instructions, PIN codes, A/V challenges, and software download/installation issues.

RingCentral addresses download and installation issues by eliminating downloads through the use of WebRTC technologies. In addition to addressing the most common complaints around joining meetings, WebRTC also brings in proven security and privacy components that are enforced by the browser.



The surveyed users also indicated how problems can be fixed. A whopping 67% believe meetings should integrate seamlessly with telephony and messaging solutions. Almost half — 40% — requested single-click-to-join capabilities, and 84% indicated that audio quality is critical to successful online meetings. There was also clear agreement that video meetings are here to stay.¹

Visual-First Communications

Enterprise communications were built on the foundation of telephony. The telephone emerged as a standard component of the corporate desktop back in the 1960s. Additional forms of telephone-centric communications included fax, voice-mail, and interactive voice responses such as automated attendants.

Video-based communications are hardly new, but only recently have they become mainstream. Broad adoption of video was delayed for years due to some major barriers, all of which are disappearing:

- **Price:** Video communications were too expensive. Now, the cost is negligible — or nothing.
- **Equipment:** Video required special equipment. Now, most desktops, and every laptop and smartphone, are video-ready.

¹ Survey commissioned by RingCentral was conducted by Dynata in September 2019 and included responses from 1,000 US business users of conferencing services.



- **Access:** Video required broadband (expensive) networks. Now, fast (and free) networks are ubiquitous and easily found in offices, homes, coffee shops, airports, and hotels.
- **Complexity:** Video equipment was intimidating. Now, modern solutions are engaging and intuitive, with features such as one-touch start and auto-framing.
- **Awkward:** Being on camera seemed formal or strange. Now, especially among younger employees, it is voice-only communications that seem limiting and stilted.

The result is that we've entered a new era of visual-first communications. It's a more natural and personal way to communicate. It may be hard to remember, but many of us once considered voice-only communication as the standard. It's

not. Face-to-face, visual communications utilizing sounds, expressions, and other non-verbal cues are how we naturally communicate. Visual-first communications are particularly important today as teams are increasingly distributed.

Visual-first communication is more than video. It's also the ability to share content. Particularly as our teams have become distributed, being able to view the same content simplifies and facilitates collaboration. Consider that the reason we typically meet is to share and discuss things we see. In the old days, we shared something physical, such as a design, artwork, prototype, blueprint, or other tangible item. More often than not, our work today revolves around digital content that can be easily shared in virtual meetings.

Visual-first communication has changed the way we communicate. While voice communications remain critical, businesses use multiple modalities of communication. That mix currently involves visual solutions such as video conferencing, telephony services, messaging services, and, of course, email.

Modern UCaaS

The term “unified communications” (UC) emerged around 2003. Before UC, telephony lived in a completely separate domain. It had separate terminals (phones), separate servers (PBXs), separate wires and jacks, and utilized separate providers. IP-based communications ended this segregation. Initially, UC was about convergence — converging voice and data infrastructure into one. Then came new capabilities and converged applications, such as unified messaging, which combined voicemail and email.

UC continued to evolve, blurring telephony with other applications. Popular examples included softphone and click-to-dial applications. Messaging and video services also evolved, albeit independently. The result was more and diverse forms of communications, but they were hardly unified.

UC took a few detours, but it’s arriving now, and RingCentral has been a pioneer in making the

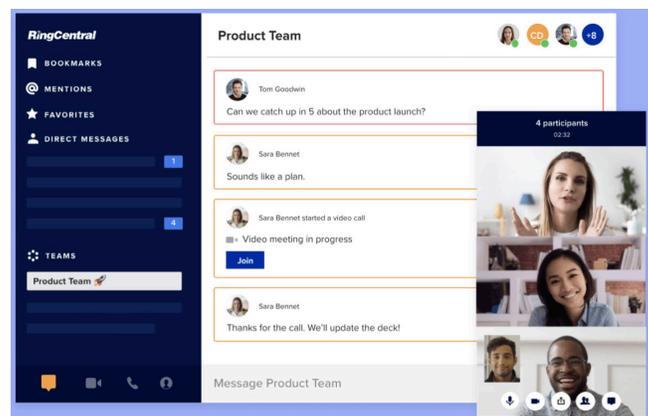
vision of modern UCaaS a reality. It’s now feasible to unify voice, messaging, and video into a single application. The benefits of doing so are tremendous. Conversations can flow not only across different devices but across different modalities. What might start as a traditional voice-only conversation can be escalated easily to a video interaction. A question received by a chat message can resolve with a discussion over a shared

screen. With modern UC, conversations can still span across modalities, but now within a single application.

Modern UC reduces app switching, which means fewer distractions and simplified contextual history. It also means increased

familiarity and less training, as it requires just a single application and user interface. This consistency of design spans across desktop, mobile, and web experiences.

Modern UC is much more than unifying the app and user experience. It is also about unifying the back-end services, administration, and infrastructure. With RCV, RingCentral owns and controls its entire solution, including the audio infrastructure, reporting and analytics, and administration. Most importantly, these three services provide a platform for future services as the UCaaS umbrella continues to expand.



A Look into RingCentral Video

RingCentral provided TalkingPointz with early access to RCV, which worked flawlessly during a six-month trial and proved to be intuitive, reliable, and tightly integrated with the RingCentral Office. Its arrival is timely because:

- User focus is shifting from modalities (voice, video, messaging) to experience. Multi-modal communications are now expected, and organizations are prioritizing the user experience.
- Enterprise teams are increasingly becoming distributed. This trend includes not just work from home but highly distributed teams across different cities, states, and countries. Distribution is driving a need for more engaging, online collaborative tools.

Today, leading providers are delivering an owned and controlled solution for UCaaS, messaging, and video. RingCentral expanded into messaging when it acquired Glip in 2015, and now it has RCV. Unlike other providers, RingCentral can't get away with a limited video solution. Since RingCentral included a version of Zoom in RingCentral Office for more than a decade, it needs to deliver a solution that is as good or better than what Zoom has developed — that's a tall order.

To do this, RingCentral turned to WebRTC to build a next-generation video solution. Simply stated, WebRTC is overtaking internet-based communications with its modern and open approach, thus giving new solutions an advantage over legacy solutions.

WebRTC wasn't available when existing market leaders architected their solutions. Every major video solution built before WebRTC utilized licensed and proprietary technologies as well as a dedicated client. Until just a few years ago, that was the only option. In some cases, vendors got around client installations by restricting support to Google



ABOUT WEBRTC

WebRTC is a group of open voice and video technologies published by the World Wide Web Consortium (W3C), an international community of member organizations that work together to develop internet standards. Originally optimized for web browsers, the technologies are now used across a variety of applications. The World Wide Web made the browser a universal client. Before the browser, every application required its own locally installed software. Many modern applications, such as Facebook and G-Suite, don't even have software clients anymore and instead use the browser. WebRTC gave the browser a voice and created a universal client for real-time audio and video communications.

WebRTC was first proposed in 2011, and its first release (WebRTC 1.0) was approved in 2019. It took longer than many expected, but the standards process is complex. Key to the success of that first release was widespread browser support, so not only did the various stakeholders have to agree on the technology, but the browser makers had to support it. WebRTC was available with limited support (most notably on Google Chrome) for most of its evolution.

WebRTC has become very popular for two simple reasons: it's open and free, and it provides excellent quality.



Chrome and/or requiring browser-downloaded enhancements. However, those actions prevented a nonuniversal solution. Also, this approach compromised functionality compared to installed apps, such as screen sharing or intuitive audio controls.

Built for Browsers

RCV was built and optimized for browsers. It offers the features and quality expected of a communications leader — features including instant join, screen sharing, and no required downloads. This functionality is supported and consistent across different types of devices and operating systems.

RingCentral has created a powerful solution that fully leverages open standards as well as the company’s history and expertise in cloud-delivered communications services. The team designed RCV to scale on the RingCentral cloud and leverage RingCentral “carrier-grade” signal processing technologies. It’s a new application but contains decades of open and proprietary technologies that make it powerful, reliable, secure, and easy to use.

RCV emerges as the most modern solution available for cloud-delivered, enterprise visual communications. By

As it’s open standard, developers are free to leverage WebRTC for voice and video communications. Support is built into modern web browsers, including Google Chrome, Microsoft Edge, Apple Safari, Mozilla Firefox, and most others — for free. WebRTC also offers support for mobile apps on Android and iOS.

Free doesn’t mean reduced quality. WebRTC offers very high-quality video and audio capabilities, and the WebRTC ecosystem is so large that there’s ongoing, tremendous innovation. Because of its openness and popularity, it is thoroughly tested and abused, making it arguably the most secure communications stack currently available. Nearly every major vendor provider, other than Zoom, has embraced WebRTC to some degree.

WebRTC has revolutionized communications over the internet. Before WebRTC, real-time communications technologies required licensing. The most popular predecessor was H.264, a video standard that involved numerous patents for both video creation and playback. WebRTC effectively liberated real-time communications on the web.

WebRTC is a toolset, not an application. Developers can utilize the codecs (for video and audio), its transport layer, and its media engine to build communications applications. It gives developers a huge advantage, but it’s not a complete solution. Not all WebRTC applications are equal. The standard, for example, does not address scalability, signaling, network congestion, quality, architecture, and more. Application designers must address these elements separately.

As an active W3C [member](#), RingCentral monitors and contributes to the future of web communications.

leveraging WebRTC, it offers crowd-sourced security that validates its architecture in ways that proprietary solutions cannot. RCV provides more than WebRTC as it leverages RingCentral's scalable and reliable global platform, backed by an industry-leading 99.999% available service-level commitment.

Most importantly, the RCV solution natively integrates with RingCentral voice and messaging today, and soon as a standalone application that has meetings and messaging only. These capabilities enable conversations to transition seamlessly between voice, messaging, and video. That may not seem like something that comes up very often, but that's largely because it hasn't been possible with

most UCaaS solutions. Consider a quick call to a colleague to clarify a point in a document, and being able to immediately share the document without having to restart the conversation in a new app.

To the Future: The Experience

Modern UC is less about physical convergence and more about the experience. As vendors deliver fully unified experiences, users are benefiting from simpler user interfaces, fewer distractions, less training, and greater consistency across devices and modalities. With companies like RingCentral owning and controlling their entire solutions, the future for UCaaS will be interesting to watch.



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