

Revolutionizing communications with RingCentral APIs

White paper



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What is a revolution?

According to Webster's, the word "revolution" means a sudden, radical, or complete change. In Latin, revolution comes from *revolutio*—meaning a turn around. In political or governmental terms, it can be described as a fundamental and relatively sudden change in ruling power and organization when the population stands up to the current establishment.

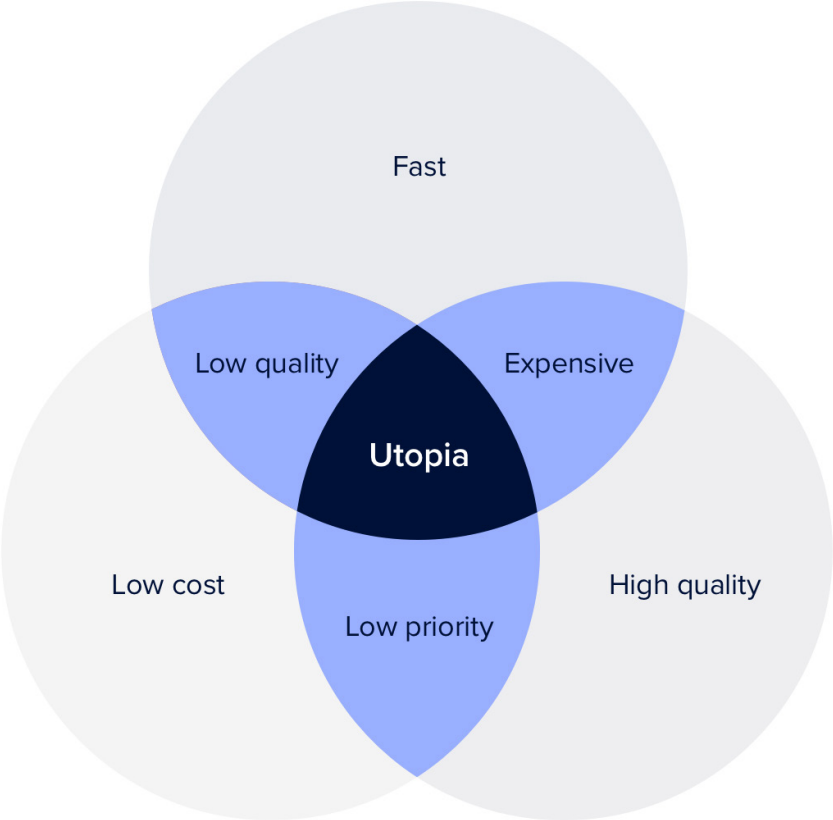
Another form that revolution has taken over the years is that of communication advancements. From cave paintings and smoke signals to writing and moveable type to telegraphs and telephones, all these advancements and upheavals in the communication realm were intended to make message delivery faster and more accurate. Add to this the worlds of television (image transmission), fax (document transmission), email and SMS (text transmission), and social networks; all these represent major shifts in technology at every stage.

But how many of these advancements could be considered true "revolutions" over adaptations or improvements on a theme? The answer to that question can be fairly subjective, but we are at yet another definite point of revolution in the form of telephony and cloud-based communications. In fact, we are at the initial cusp of it, and like many revolutions, we don't really know how long it will take before its zenith is achieved.

Changing the paradigm, again

A few years ago, the term “paradigm shift” was en vogue. You were certain to hear it used in almost every context of conversation ranging from business concepts to religious approaches in personal evangelism. Everything seemed to be subject to this new buzzword. It basically meant that the world, whatever world you were describing, was changing so rapidly that a major change or shift in thinking was needed. The paradigm was the status quo, or “what we’ve always done,” and the foundation that it rested on was no longer stable or viable.

In business terms, there are three basic tenets to any project: time (duration), cost, and quality. If you wanted something done quickly and cheaply, then quality would be sacrificed. If you wanted something done fast and of high quality, then costs would be higher, and so on. It has always been considered a utopian impossibility to have a high degree of fulfillment on all three tenets at the same time.



The reason that we are in the midst of a new communications revolution and that the paradigm is shifting once again is that we have the utopian business solution in sight! The catalyst for this shift is the use of cloud-based technology. Although all three tenets of the business triangle can be rather subjective—time is “done quickly,” cost is “low cost,” and quality is “high quality”—the ability to score highly on all three disciplines is now possible.

The cloud advantage

This then raises the question, how is this communications revolution possible? The answer is, as mentioned, leveraging cloud-based software. Generally speaking, cloud-based technology has the advantages of development, maintenance, and support being the responsibility of the provider—the customer’s only real concern is how to use it well.

Typical cost of entry is quite low, and most offerings of this type are based on the “pay per drink” model of only having to pay for what you consume. This is indeed a broad statement that demands more detail: what software, what tools, what solutions can be employed together to achieve this utopian plateau? In this white paper, we’ll discuss the separate technologies that on their own are quite powerful, but used in concert allow for this revolution to be possible.

Machine learning (ML) and artificial intelligence (AI)

Machine learning (ML) has grown exponentially in recent years in both use and accuracy. Machine learning is a blanket term for many kinds of technology that work together and occasionally overlap. It generally covers the concept of having computers (machines) and software glean information from large, disparate forms of data and report trends and patterns from that information, all while adding the new materials they have “learned” to their algorithms.

The alternative to this is known as artificial intelligence (AI). AI simulates human thinking and reactions based on human input, such as when Apple’s Siri replies to your questions. Most of these technologies will be able to pass some aspects of the [Turing Test](#), showing that they are capable of a certain level of intelligent behavior.

As technology increases in capacity and efficiency, the programming that is being developed for these purposes will continue to be recognized as an essential business need. Subsets of ML and AI such as natural language processing (NLP), pattern recognition, speech recognition and text generation, sentiment analysis, and chatbots are all advancing at breakneck speed, making businesses that adopt their use more agile and more able to adjust to industry needs and trends.

The following are some explanations and simple examples of what each of these subcategories of machine learning and artificial intelligence can do.

Natural language processing (NLP)

Natural language processing is the ability of computer algorithms to understand human language and respond to messages. When you consider automated text responses and chatbots that try to understand simple inquiries and respond to them, this is what is going on behind the scenes. Apple’s Siri and Amazon’s Alexa are mainstream examples.

Another aspect of NLP is to have large amounts of text or audio sources scanned for information to look for patterns or terms that may be trending in the content. NLP techniques look out for semantics (how words relate to each

each other), syntax (how words work to make legible ideas), phonology (how words sound), morphology (word-form structures), and pragmatics (how context leads to understanding). Basically, these are all aspects of human language that have to be taken into consideration when processing language data.

The process usually consists of removing all the extraneous filler words (the, an, of, etc.) and pronouns (he, she, it) and then boiling down the remaining words to their root forms when possible (talking to talk, traveling to travel, etc.). Once the input is reduced to the usable content, the algorithms will then start to analyze the remnant to see if it can find any trends, such as a significant volume of certain words used. Depending on what the algorithm has been tasked with, the results can be quite valuable.

Pattern recognition

Having software that can recognize trends and patterns is very valuable. One of the best examples of this would be major credit card companies like Visa or Mastercard that track and record every purchase that a person makes, including all the data surrounding the event—date, time of day, price, quantity, etc. They then analyze the data collected and predict when you are most likely to make your next purchase of a particular item. They can then sell this information to businesses who plan their sales cycles, or they can use it themselves to determine if someone should be offered an increase in their credit limit.

Additionally, they can tell by region what product will be in demand, which can help with business decisions such as supply chain management. Fraud detection and unusual spending patterns on an individual level can also be determined and flagged with this level of information tracking.

Other loyalty programs that give points use similar techniques (think grocery chains or frequent flyer programs). They will know when you are most likely to need an item based on your buying habits, and they incentivize you by giving points or coupons.

The science behind all this are concepts called big data, deep analysis, and pattern recognition. Algorithms are developed to watch for certain instances of information that may occur over the extremely large volumes of data that are collected. Quantity and frequency are among the most analyzed data points that these algorithms are set to look for.

When it comes to communications, these concepts can be used to determine calling frequency, calling locations, and call durations—all valuable information when communications companies want to revamp calling plans offered to their customer base or offer incentives for new customers to join their ranks.

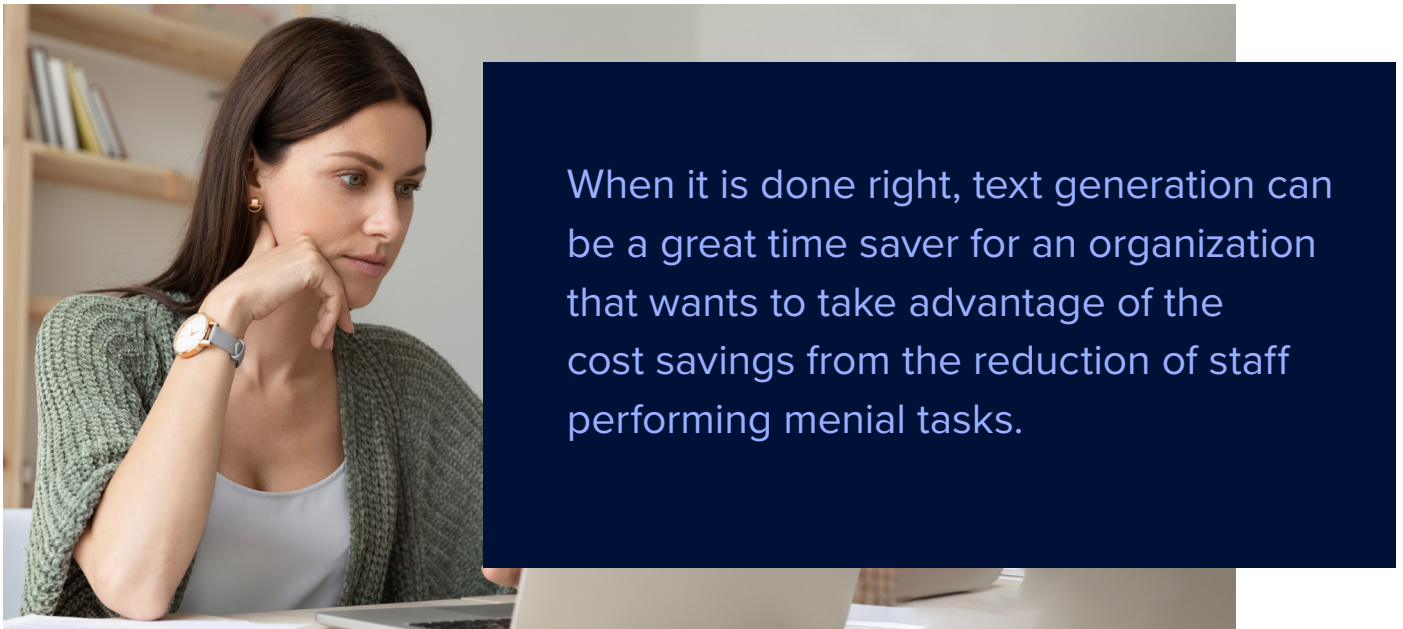
Speech recognition and text generation

Another aspect of machine learning and AI is that of speech recognition and text generation. This is a process that can follow well on the heels of both NLP and pattern recognition. When you think of software that can be tasked with handling incoming calls or texts from customers and you want to automate basic responses, then this technique can come into play.

How many times have you called a large company and have been greeted by an answering system that wants you to voice your inquiry rather than press numbers? The software behind this process is a form of speech recognition. In its simplest terms, it is attempting to interpret your speech to direct your call to the desired department. When you think of a country like the United States that has many regional dialects and speech patterns, you can gain an appreciation for what this software is tasked to do and how difficult it can be.

A Southern accent is very different from a New England accent, which in turn is very different again from a Midwestern accent.

The other side of this coin is to try and have your software interpret the incoming spoken data and reply to it with voice or text content. Having software that can do this process well is difficult to find and “train.” Having a call directed to “refunds” when the request was for a “representative” can be very frustrating for the caller.



When it is done right, text generation can be a great time saver for an organization that wants to take advantage of the cost savings from the reduction of staff performing menial tasks.

Having your software send out an SMS text message in response to an incoming call or text can accomplish just that. For example, if someone is calling for an update on an order, then having your system look up the order number, scan your database, and craft a text with the latest information to the mobile number on file saves time, effort, and costs.

Sentiment analysis

Another aspect of machine learning and artificial intelligence that large companies are beginning to embrace is sentiment analysis. In this form of algorithm creation, the software is tasked with trying to find the “mood” of the content of the provided data.

Sentiment analysis can be used in conjunction with releases of new products to see how the market is responding to it. The software is usually only trying to determine if the impression of the product is positive, negative, or neutral. This data can be collected through surveys or feedback forms, but it can also be collected from social media or other websites where comment sections are active. Emotional responses can also be collected by having the software look for special words and phrases like “I was pleased with the product’s performance” or “I was very angry with the delivery of the product.”

This type of collected feedback helps companies to pivot away from bad ideas or move towards possible enhancements for their winning products.

Chatbots

The last item to discuss in the area of NLP and AI is the rise of the chatbot. This is another type of language-processing/coded-reply type of algorithm, yet it is one of the most rudimentary of the genre. Simply put, a chatbot is a tool usually placed on a company website that is tasked with helping visitors with their inquiries through a form of automated dialog.

When a visitor types in an inquiry, the chatbot attempts to interpret the text and look for keywords that will allow it to suggest some simple responses. Oftentimes, chatbots field pre-sales or technical support questions. Sometimes these questions equate to a list of frequently asked questions (FAQ), such as hours of operation, weekly sales, contact information, etc.

Chatbots have grown in popularity on places like Facebook business pages where the proprietor may not be actively online the whole time. They offer the ability to give potential and returning customers a more personable experience without a live person.

RingCentral API vertical use cases

In this next section, we will take a deeper look at some of the real-life uses of the technologies previously discussed. We will be able to see that this revolution in communications is not limited to certain business sectors or the size of business.

Healthcare

There is really no more important place for revolutionary changes in communication than in healthcare. When people's health, and oftentimes lives, are at stake, fast, accurate, and secure information is essential.

RingCentral Office® is both secure and HIPAA compliant

Healthcare is heavily regulated with numerous regulations and industry standards designed to protect patient information (such as HIPAA), security (ISO), and data interoperability (HL7). Failing to adhere to these regulations and standards can result in fines, loss of licensing, and even criminal charges. RingCentral Office adheres to the highest standards and maintains multiple certifications to allow your healthcare organization to communicate effectively, efficiently, and with regulatory compliance top of mind.

High levels of demand for security and confidentiality while communicating medical information can hamstring health systems and severely bog down the flow of vital patient information. RingCentral is fully HIPAA compliant, with compliance certification through third parties. All data, calls, and messages that are transmitted within this system are securely encrypted both while the information is in transit and while idle. Unauthorized access to health information is always stringently defended against. Add to this the benefits of a cloud-based platform and you have a best-in-class health communications system. Hospitals, insurance providers, doctors' offices, long-term care facilities, medical laboratories, any other health-related entities can all use the platform and be confident that their information is secure and only seen by those authorized to do so.

Optimizing clinic calls with Office integrations

Coordinating information within a clinic is also a valuable means of keeping things efficient. This can be done with the RingCentral Office platform as it can be integrated with other systems through API calls. One such case would be to have a system react to incoming calls in a way that offers the caller's information to the call receiver while the call is ringing.

RingCentral Office has a great integration application with Sikka's practice management software that allows for the display of recent information based on a client's unique phone number. When a call comes in from a known number (an existing patient), pertinent information comes up on the screen so that the person answering the call can have as much relevant data as possible related to that number. Information like the date of the last call, any accounts receivable information, recent or upcoming appointments, insurance balances, and so on will be clearly displayed. This saves both the time of the patient and the person picking up the phone because the patient's information is readily available. This would also integrate with practice management software that is used for dental, audiology, optometry, and veterinary clinics.

SMS and Fax APIs

RingCentral's SMS and Fax APIs are being put to great use. When new information on a patient is created, that data needs to be shared among many disparate systems. This has been done in the past through fax, email, and even postal "snail" mail. For example, specialist doctor examinations are automatically sent to the GP/family doctor for their records and review. Other possible data destinations could include hospital in-patient records, health insurance claim records, billing records, pharmacy prescription records, and so on.

Keeping in mind that the majority of this information is highly confidential, there are many ways that this data transfer, when done via traditional methods, can get sent to the wrong destination or even lost. Simply sending attachments to the wrong email address is all it takes for a data breach. With HIPAA, HL7 (ISO), and other security requirements around the globe, this is a major concern for all parties involved.

Thankfully, secure and encrypted programmed interfaces with these systems can be developed using RingCentral Office, RingCentral's team messaging, and the RingCentral's APIs. Triggers can be set when certain system events occur. Event triggers can result in automations, such as sending a series of fax documents, starting a video consultation meeting, team chat, file share, or triggering voice calls and leaving voice messages if the call is not answered. All of these services can also be triggered in concert in any combination if required. Great real-world examples of these types of multi-event triggers are the integrations that Theta Lake has developed with RingCentral's platform to help ensure all communications are compliant with applicable regulations. You can read their case study [here](#).

Simple medtech needs are also met

Electronic fax and SMS is also being used for many other healthcare-related tasks. When a new prescription is created by a doctor, they can fax the prescription directly to the patient's pharmacy and the filled prescription can be picked up on the patient's way home. The doctor's office can use the same platform to send out appointment reminders by text. Lab reports for blood work or COVID-19 testing can be sent directly from the lab to the doctor's clinic and inserted into their system (for security and confidentiality reasons), and the actual patient can be sent a generic SMS telling them that the lab report has been sent to their GP. Again, all the information is securely encrypted both while in transit and while sitting idle, so confidence in the process and protection of personal information will remain very high. The report information is then ready for the next patient consultation and everybody is finally able to be on the same page at the same time!

RingCentral and AI/ML

Hospitals and long-term care homes in Pennsylvania are using machine learning and API triggers to analyze their incident reports to identify emerging patterns. Every year, they collect over 300,000 records of incidents that happen within the medical system in that state.

The state is the only one that requires healthcare facilities to record information of this nature. Issues like incorrect prescriptions, hospital-acquired illnesses like bacterial infections, and even preventable deaths are all recorded. They have been recording the information in a database since 2002 and now have a total of almost 4 million incidents reported—the largest database of its kind in the United States.

The analysis goes beyond single facility issues to find developing trends across the whole healthcare system of the state. Improving efficiencies in processes identified system wide could result in less injury, lower costs, and even more saved lives.

Data of this nature can be collected within RingCentral Office and the team messaging platform. All concerned parties could be informed within the messaging application when a concerning incident occurs depending on the type of incident. If an incident of a medical nature comes in, then doctors, nurses, and specialists can be informed. If an incident like a broken handrail in a long-term care home is reported, then property maintenance workers and nurses could be informed.

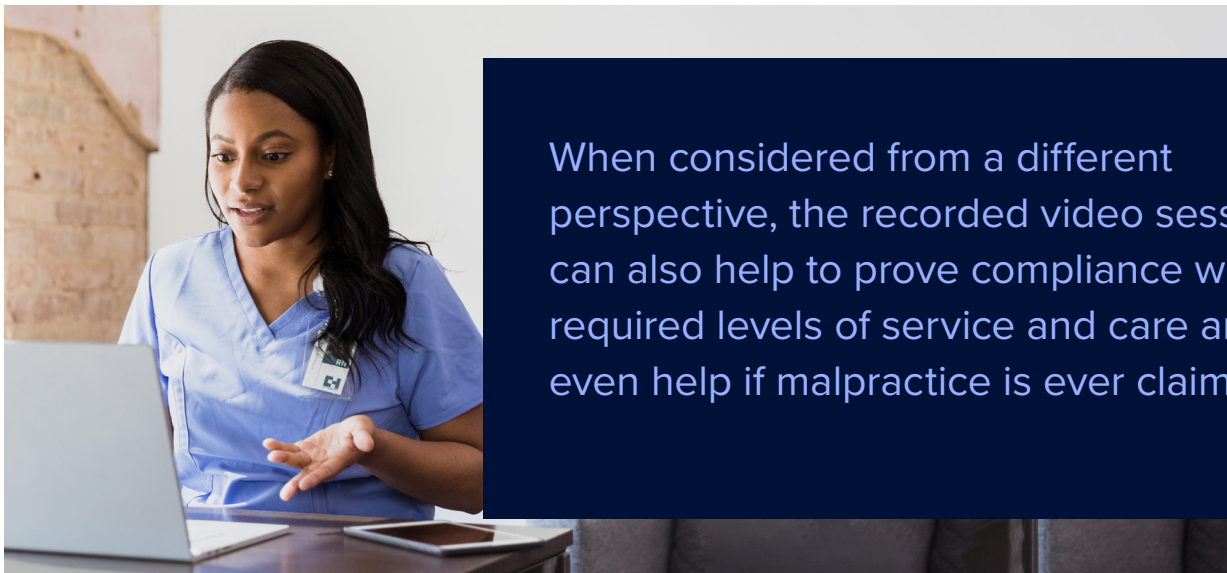
The list of potential combinations is many and varied, but the data can all be controlled and disseminated in both a timely and secure manner. All the individual reports can then be collected with analytics in mind and summaries can be prepared for upper management (or any other interested and vetted parties) to highlight developing trends and plan possible courses of action.

Interactive telehealth is also possible

Chatbots can be used to pre-diagnose simple conditions and help determine if a patient should stay home, wait to see a doctor with a regular appointment, or head to the emergency room immediately. Depending on the situation, the chatbot can even help to book a doctor appointment. If, however, a higher level of care is demanded, the chatbot can transfer the conversation to a real certified healthcare professional. Ultimately any healthcare destination like a local hospital can also be informed of the patient's impending arrival if it is determined that they should go there. A perfect example of these capabilities being used today include COVID-19 preliminary questionnaires that ask about symptoms and work to identify any life-threatening conditions that would require immediate care. SMS may also be utilized to follow up on these interactive sessions, allowing for patients to opt in to follow-up texts, a number to text or call if something changes, or directing patients to the secure patient portal.

Telehealth, the new normal?

With the current climate of physical distancing, doctors are using video calls to see their patients. This can be done with the RingCentral Video platform, and with the help of the API, it can record the sessions and attach them to the patient's overall health history. While the video session is happening, the API can interface with transcription tools and help to identify some patterns in the text of the conversation; with proper AI training, medical issues can even be identified and possible diagnoses might be suggested.



When considered from a different perspective, the recorded video sessions can also help to prove compliance with required levels of service and care and can even help if malpractice is ever claimed.

Excerpts of the recorded sessions can be sent (with proper authorization and encryption) to a specialist for their expert analysis or other doctors for second opinions. Insurance companies may need to see similar excerpt segments of these recorded sessions for proof of an injury or condition in order to process coverage claims.

Retail sales

Communication is vital in retail to keep consumers interested and engaged in your company and products available for purchase. It's rare these days to physically enter a store and not be asked for your email or cell number at the checkout. Retailers also seem to be desperate to give you "points" in order to get your contact information. The tradeoff here is that with a points system the buyer gets some discounts in return for sharing their contact information. This is all a subtle (or not so subtle) form of marketing and communication between the retailer and the consumer. The advantage to the retailer, however, is so much greater in that they can track your buying habits and basically tell you when you need to buy something before you know it yourself.

Inboxes are so inundated with daily offers that Google and other email software clients have started to identify them as "promotion" emails for easier differentiation from "normal" emails and even spam.

The information collected here by retailers, "big data," is extremely valuable, and it's getting more difficult for them to sort through all the collected data to identify key insights or customer spending habits. Developing trends, seasonal buying, panic buying, and supply and demand needs are all part of the equation. With this mountain of one-way communication being produced on a daily basis, retailers are still needing to be wise and agile in how they communicate with their potential customers and use the collected information.

Artificial intelligence and machine learning are being used extensively in this endeavor, and as expected, RingCentral is also here at the forefront.

Streamline customer service

One way that retailers can endear themselves is in the area of customer service, and RingCentral's Engage Voice platform can be used to accomplish this. With the additional bonus of the API, retailers can have their customer service call center react to inbound calls based on an agent's experience level, the customer's recent purchase history, the customer's call history, or the priority of the call. Having this historical background information made readily available to the call agent helps to prepare the agent for the incoming call and, therefore, can help them in solving any issues more quickly.

If the incoming communication from a client is text based, then messages of that type can be picked up by the system. It can also then be scanned for content allowing the system to respond by text if its a simple request for information like an order status. If the message is more complex, then the information can be forwarded to a call agent, additional existing customer data could be retrieved for the agent to review, and then a return voice call can be placed to the customer to discuss the issue.

¹ [Why customer complaints are good for your business, Superoffice](#)

Research has shown that 13% of unhappy customers will share their negative company experience with 15 or more people, while even less, 1 in 26 customers (4%), will complain directly to the source of their issue. On the other hand, if an issue is resolved quickly by a positive service experience, then a happy customer will either remain a customer, become a better customer, or even become a brand ambassador for that company.¹ So trying to be helpful, courteous, and informed while resolving customer issues is the best approach to retaining your hard-earned customer base.

Meet the customer where they are

New retail experiences are coming into play as well: curbside pickup of online orders for instance. Integrations with RingCentral's SMS messaging API and order management and fulfillment systems can be created where the retailer receives a text message when the customer has arrived on site. That message can then be routed to the in-store team via SMS or team messaging, informing them to deliver the prepaid merchandise to where the customer is waiting in the parking lot.

Internal operations are also crucial

Internal store operations are just as important to the survival of a retail operation as customer interaction. Tasks include making sure inventory is received, processed, and placed on the shelves; that signage and pricing is current; that shopping aisles are clean, presentable, and navigable; that staff scheduling is up to date; and so on.

All these tasks can be managed and assigned through a task management system and integrated with RingCentral's SMS or team messaging platform with their respective APIs in use if needed.

Tasks can be assigned and sent to the appropriate staff member via messaging, and once the task is completed, the staff member can reply to the message to have the system be updated with the task's completed status with any additional notes. This can be especially beneficial to big box stores that cover a large square footage of retail space.

For a real-life example of this in action, you can see what Waitrose & Partners have done in the UK to fully automate their large grocery stores, convenience stores, and international locations. They have implemented RingCentral Office and team messaging on a unique mobile device known as [Zebra](#), which also has a barcode reader in it. With this combination, they can check stock levels, communicate with anyone in store or further afield, and help customers all from one hand-held device. You can read their full case study [here](#) or watch their testimonial video [here](#).

Location services with GPS and SMS

One last area of modern retail agility is in the area of localized sales. With GPS and location services becoming more mainstream, retailers can now even be aware of what general area of a store a customer is standing in or moving through. With SMS capabilities at the ready, retailers can send out a coupon or sale notification for a particular item that is in close proximity to the customer.

For many other retail CRM needs, RingCentral also has out-of-the-box integrations of prebuilt apps with many partner suppliers like Salesforce, SugarCRM, HubSpot, Zendesk, Oracle Sales Cloud, Microsoft Dynamics, and many more. Check out the many CRM integrations in our App Gallery [here](#).

Real estate

The revolution also continues in the realm of real estate. Technology is being used at all points imaginable to move the needle in this sector. Customer service and information about buyers, listings, neighborhoods, and price points are constantly changing, making keeping up with it all a monumental task. Today, RingCentral APIs are well positioned to create faster and more efficient communications, tackling these challenges head on.

Automated SMS communications

Keeping buyers and sellers up to date on listings and statuses can be challenging and time consuming. Failure to keep buyers up to date can result in lost sales, or worse, the buyer seeking out a new realtor or third-party service. Likewise, sellers often become antsy and concerned about the progress of the showings, often quick to switch realtors if they do not feel there is adequate progress or communication.

With the RingCentral SMS API, you can significantly increase your communication with both. Buyers can automatically be sent show time confirmations and new listings with embedded pictures, videos, and links! For buyers that are not actively seeking on a regular basis, you can even automate a periodic check-in to see if they are currently looking. When show times are booked or someone shows interest, you can automatically message the seller to keep them updated on the progress, even building out SMS reports to highlight the number of shows, hot leads, and more.

You can even expand your reach and increase your lead database by using the RingCentral SMS API to let interested buyers text a number to learn more about a property. You can then follow up with an automated survey to further qualify the buyer, send nurturing texts to keep them informed or engaged, and even send out additional listings that might be similar to their current interests.

Virtual tours using RingCentral Video

In addition to all the new ways to communicate by words is a way to communicate through video via RingCentral Video. Given how the real estate business depends on pictures and video as much or more so than it does on numbers, the way a person sees and feels about a property is possibly more

important than what it might cost. Being able to show a potential buyer what a location looks like without them having to physically be there is quite valuable (after all, a picture is worth a thousand words).

Virtual tours remove the challenge and hassle of having to travel long distances to explore potential residences, especially when moving long distances. Real estate agents can invite potential buyers to explore a potential house from miles away. Coupled with the added ability to live chat with the agent, realtors can field questions on the spot and have their prospects feel confident that their concerns and queries are being quickly addressed. The video tour can also be recorded so that anyone not able to attend the live event can watch it at a more convenient time.

Automated paperwork and faxes

No property transaction comes without paperwork. The bill of sale, transfer of deeds, title searches, legal documents, contractor inspections, and so on all have to be done. Even before a deal is struck, the paper trail begins. How great would it be to have the paperwork all managed electronically?

With the RingCentral APIs, this is completely possible. You can instruct your API to send documents via electronic fax, or have them integrated within external platforms like Box or DocuSign. Through the API, you can set up a predefined workflow to keep recipients updated with automated SMS text messages and phone reminders every step of the way, such as when their documents are ready for review.

Going even further

Using these API technologies can open up a wide array of possibilities, of which we have only just touched the surface. Combining the above technology with artificial intelligence and chatbots can add yet another level of efficiency, and even allow you to tailor your communications and listings for each buyer!

For example, chatbots can be used to determine the general interest level of a potential buyer and can help to determine what types of properties they are looking for. Using a series of questions that can be sent and answered, chatbots can help direct the interested party to a subset of listings and at the same time reduce the investigative burden for the agent. Questions like price range, general neighborhood location, number of bedrooms, amenities (pool, gardens, acreage, etc.), number of garages, and so on can be used to filter down the offered properties of interest. The listing links can then be sent out by either email or SMS text message.

Either the RingCentral SMS API, Team Messaging API, or Engage Digital Chatbot API can be used to program this kind of interaction and decision-making flow. You can set the series of questions and their expected answers and have the chatbot respond accordingly, taking the user all the way to the end and allowing you to automate tailored SMS, emails, voice calls, and more—all while prioritizing pre-approved buyers and connecting others automatically to a loan officer.

If you really think about it, when you employ RingCentral products and APIs, you can promote and sell a property more efficiently, reaching buyers at any time and anywhere.

Financial services

With a combination of online and in-person shopping, it has never been easier for consumers to make purchases or to have their credit card or banking information compromised. Access to banking information, account balances, and credit limits not only provides convenience but reassures and educates consumers on financial matters while reducing costs and liability to financial institutions.

RingCentral enables secure and proven communications solutions for institutions in the financial services sector through seven separate layers of security and encryption, numerous certifications, and a proven secure and reliable infrastructure.

Using SMS, IVR, and chatbots

Through the use of SMS, IVR, and chatbots, financial institutions are able to automate more complex transactions, reduce account servicing costs, and increase trust with investors, policyholders, and depositors. SMS text messaging can be utilized to confirm transactions, transfers, or trades. They can notify borrowers of minimum payments and alert them to suspicious activity.

IVR (interactive voice response) can provide secure and verified account servicing options for balance inquiries, transfers, bill pay, card activation, exception reviews, and more.

With the help of the RingCentral API, all the above communication methods can be fed securely to your communications surveillance and compliance systems. To meet regulatory and audit needs, the API allows conversations and events to be securely recorded, logged, and retained.

Two-factor authentication and one-time passwords

With phishing scams and social engineering, hackers are learning new ways to trick employees and clients into providing account numbers, usernames, passwords, and other identifying information—allowing them to quickly access their accounts and financial information.

Using two-factor authentication (2FA) and one-time passwords (OTP), you can help protect your customers' identities and information by requiring confirmation from their mobile device via SMS or providing a short code sent to their mobile that they must provide when logging in. This helps ensure your customer is who they say they are and quickly alerts them to attempts by others to log in to their account.

Alerts via SMS and phone

Another great use of SMS text messaging is sending out batch notifications or alerts to a high volume of clients. This may include new research availability, market commentary links, transaction deadlines, blackout periods, special promotions, or links to required disclosures. SMS messaging is also appropriate in more immediate and urgent situations, such as technical outages, liquidity squeeze, and market downdrafts. With increasing volatility, having a reliable, cost-effective alerting capability that reaches across your client base is a requirement.

Through RingCentral, financial institutions are able to send mass volumes of SMS quickly, conveniently, and securely.

Chatbots and omni-digital customer support

Chatbots can be created with RingCentral's Engage Digital APIs to integrate with websites or other web-based locations to engage clients with general questions. Investment advisory firms are using chatbots to collect preferences and choices made by potential investors so the advisor's recommendations are better informed. Also standard inquiries like business hours, new account types, current interest, or exchange rates can all be handled in this way. Additionally, if a question is posed that the chatbot has not been set up to manage, the bot can hand over the conversation to a real life agent to dig deeper.

Internal communications and team messaging

Within the financial firm itself, there are many requirements for coworkers to stay connected. No matter where the team may be in the world—from the branch down the street to headquarters or international locations—those who are working from home, traveling, or stuck because of inclement weather can still communicate as long as they have a good internet connection. RingCentral's team messaging application can be used for this purpose. Messages and attachments among teams can be shared easily and securely. Video or audio meetings can be scheduled, launched, and recorded as needed. Private messages can also be generated between team members for extra confidentiality. Phone calls, voice messages, electronic faxes, and task assignments can all also be done on this very versatile application—all delivered through the cloud and completely secure.

Archive services with Smarsh

As with all financial institutions, there is a requirement to keep transaction history for up to seven years. The RingCentral for Smarsh integration allows for all voicemails, SMS messages, fax transmissions, and team messaging data that come through RingCentral to be archived into Smarsh. This allows for one more aspect of the banking regulatory process to be industry compliant. Not only can the data be archived, but it can also be easily retrieved for research or auditing purposes. Searches can be done based on names or keywords, and the output can be managed into multiple formats.

More information on this and other financial services integrations can be found in our [App Gallery](#).

High tech

With technology always changing, it is proving harder all the time to keep up with these changes. The analogy of a man chasing an airplane in flight is often cited. The challenges of providing mission-critical infrastructure is also important in the high-tech sector. Project management, global collaboration efforts, higher security standards, time to market, and application reliability are among the highest needs. Thankfully, RingCentral has many ways to help overcome these challenges.

Team messaging notifications on job commitments

Of course when we think of the high-tech sector, we also have to include the software that runs the latest and greatest gadgets. This type of code library is often so new—rushed out the door—it doesn't always get the stringent testing needed to achieve the highest levels of functionality or security. For a development team, up-to-date information is key to moving their projects forward on a timely basis. RingCentral can integrate with ticket management tools like Jenkins and Jira to help manage the communications process around task and ticket management. For example, with the Jenkins integration, RingCentral team members can be notified within the team messaging platform when a job event occurs. It can even target and tag individuals within a group that are directly related to a particular job.

Maintaining software is just as important as developing it. With RingCentral's integration with Jira, support tickets and task notifications can be sent via team messaging in a similar way to that of the Jenkins example above.

In both instances, email traffic will be reduced and less information will be missed when communications are performed on a shared platform rather than within individual email accounts. You can learn more about [Jenkins](#), [Jira](#), and our other integrations in our App Gallery.

Team messaging security with a global reach

Security is also an issue when projects are under development or maintenance. With the use of the team messaging platform, RingCentral also takes care of this need by having a very secure and well-managed redundant platform. Instead of emails potentially going astray from individual developer's accounts, all communication can be done within the platform and monitored. Trade secrets, with supporting documents or image attachments, can be freely discussed within the fully encrypted platform without fear of prying eyes or hacked email accounts.

Additionally, within the team messaging platform, developers can be anywhere in the world and still collaborate on projects. Spontaneous chats among developers can arise when they are connected to the platform. Simple, quick questions can be asked and answered without having to wait for emails to be opened, read, and responded to. For more involved issues, audio and video team calls can be launched or scheduled at any time, recorded, and stored for future reference.

Chatbots

When supporting the hardware and software of high-tech systems, there are many simple things that the end consumer might be having trouble with. A change in a setting or a change of a jumper on a circuit board may be all that is needed to solve an issue. These relatively simple yet time-consuming interactions with customers can easily be mitigated with the use of a chatbot. This will enable your support staff to focus on the more challenging support issues that may arise.

When someone has low to middle-tier technical support issues, they can visit a company support website and interact with a pre-built support chatbot to initially manage these needs. By using RingCentral's Engage Digital APIs, you can create a chatbot to act as the initial point of contact. For example, a chatbot could be set up when a new software release is issued and there may be a learning curve required on the new features. The chatbot can lead the help-seeker down a path of known issues and resolutions, therefore, taking some of the support demand from the pool of live technicians. Additionally, if the chatbot is asked a new question, or one that it is not able to handle, then it can be programmed to transfer the interaction to a live support person to take over the conversation and continue to assist the client.

The chatbot can also be created to keep track of any new questions being asked so that over time it can be augmented to handle an even broader base of support issues, growing in value over time.

Two-factor identification and proof of identity

Another area that is of high value and use in the high-tech arena is that of two-factor identification (2FA). For example, when clients are asking for access to secure areas of a website like a discussion forum or to join a beta testing program, the need for proof of identity is important. Simply allowing a site visitor to sign up with a username and password and allowing direct and immediate access to a restricted area is only opening the door to real trouble.

For more secure logins, ask the user to provide a username, double password entry, any additional credentials that are required, and a mobile number. A website with RingCentral's SMS API can then send out an SMS text message to the provided mobile number with a randomly generated 4 or 6 digit code to verify the identity of the requesting person. The API code will hold on to this digital code and then match it with the value given on the entry form when a real person enters it in. Once that authentication step is completed, it is generally more safe to grant the requested access.

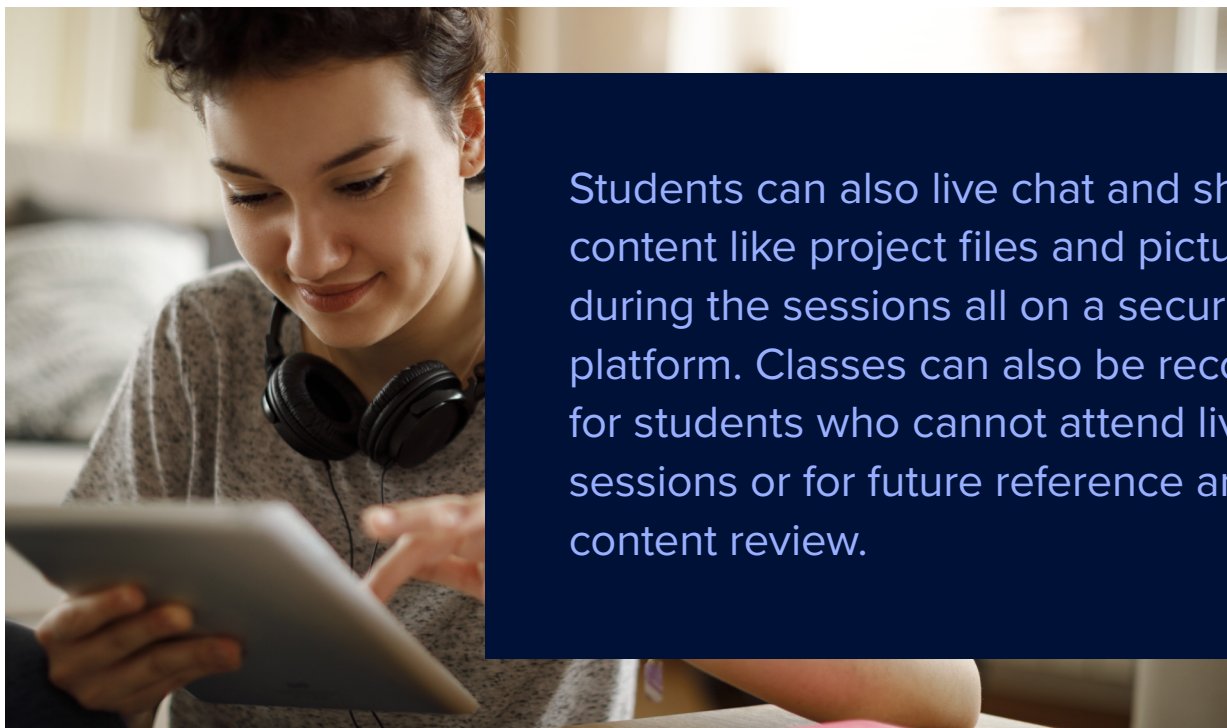
Education

In the realm of education, RingCentral's tools truly shine. Of major note here is how the RingCentral Video platform is able to meet educational needs such as video remote learning, class assignment management, choosing a major, student recruitment and retention, class registrations, insurances, dorm assignments, communication with parents or faculty, and so on.

Remote learning in the modern age

When it comes to education, one of the biggest issues currently in focus on a global scale is how do educators continue to instruct when there are transportation and large public gathering bans in place? What's more, many teaching institutions are moving toward implementing distance learning for students in remote or hard to reach areas like rural Alaska or Canada's far north, making video learning a requirement.

Using the RingCentral Video platform can resolve these demands for any teacher that has internet access and a video camera. Students can attend with either video or audio, and these virtual classes can be live streamed for multiple concurrent attendees.



Students can also live chat and share content like project files and pictures during the sessions all on a secure platform. Classes can also be recorded for students who cannot attend live sessions or for future reference and content review.

Peripheral class management with SMS

With the API, you can send out SMS text messages to a list of students informing them of a time change to a class, an update to an assignment, or a reminder of when an assignment is due. You could even possibly integrate with financial systems to verify and then permit or deny class access to students depending on their standing in the registrar's office.

RingCentral's SMS tool is also a great tool to use when connecting with alumni. Keeping the overall student body informed of continuing education classes or new disciplines of study that may be coming to the institution, could help with both furthering the education levels of students while also bringing in more funds at the same time. High volume SMS can also be used in this case by being able to send out personalized messages with the same body of content to the entire student cohort. This same approach can be used when communicating with parents of younger students to let them know when the next bake sale is or to remind them to send entrance fees along with their child for an upcoming field trip.

Chatbot and student interaction

Another major obstacle in today's "new normal" of education is that of student recruitment and retention. With the RingCentral API, you can interact with potential students via a chatbot to help them decide what major they may be interested in and to communicate career opportunities at the end of the education cycle and potential costs of their chosen field of study. If the interaction with the student goes beyond what the chatbot is programmed for, then a secure connection can be established with a live student recruitment advisor so that the conversation can continue and the connection (or interest) of the student will not be lost. When the final educational path is determined, the chatbot API can forward their contact information and chat history to the registrar's office for follow-up and informational purposes. This chatbot approach can also help to alleviate some of the burden on your student advisors during periods of higher demand like when course registration deadlines are approaching and majors have to be decided.

RingCentral has many integrations that can be used within the education sector. If your organization uses a platform like Salesforce, then integrations can be done that will allow for better tracking of potential students, their interests of study, and class bookings (sales).

Educators using the Canvas learning management system can have RingCentral Video integrated within it to help with scheduling class times, recording video classes, and planning recurring classes. One-on-one student sessions can also be booked with unique access codes so that the session can be private and secure.

Managing paperwork

The API can also be used to remind the student when specific funding or grant applications are due, what appropriate bursaries can be accessed, and so on. For example, at the university or graduate school level, if a research grant is pending for your physics department, you can send out SMS text reminders to those involved with links to PDF documents for their use. At the high school level, you can have the API schedule a video one-on-one session with a guidance counsellor or specific teacher to help students to address specific concerns. The API can even insert an appointment into the appropriate calendar of all concerned parties with additional notes attached so that everyone can be well prepared for the upcoming conversation.

Higher education and team messaging

When you think of higher education and the research that is being done in science labs all over the world, you can see how overall team collaboration can be of great benefit. With RingCentral's team messaging platform you can have all the researchers involved from around the world in one secure place. Research documentation, imagery, or recent findings can all be shared among team members. There is no risk of emails being lost or placed in spam by mistake. Instead, conversations can be carried out in real time. Video calls can be placed at will. Screens can be shared with all members. Chat conversations can be spontaneous between colleagues so that ideas and innovation can flourish. Additionally, all the information within the platform can be archived for backup and future auditing purposes.

Summary

As we have seen, there are many applications businesses are already making great use of in this revolution in communications. The cloud has leveled the playing field and enabled game changing communication capabilities for sole proprietors well as enterprises.

With a single platform, RingCentral is leading this revolution and creating new possibilities, allowing businesses to communicate more efficiently.

To learn more how RingCentral can help improve the way your business communicates, visit <https://developers.ringcentral.com>.

For more information, please contact one of our solution experts. Visit ringcentral.com or call 855-774-2510.

RingCentral, Inc. (NYSE: RNG) is a leading provider of business cloud communications and contact center solutions based on its powerful Message Video Phone™ (MVP™) platform. RingCentral offers three key products in its portfolio including RingCentral Office®, a unified communications as a service (UCaaS) platform including team messaging, video meetings, and a cloud phone system; Glip®, the company's free video meetings solution with team messaging that enables Smart Video Meetings™; and RingCentral Contact Center™ solutions. RingCentral's open platform integrates with leading third-party business applications and enables you to easily customize business workflows. RingCentral is headquartered in Belmont, California, and has offices around the world.

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