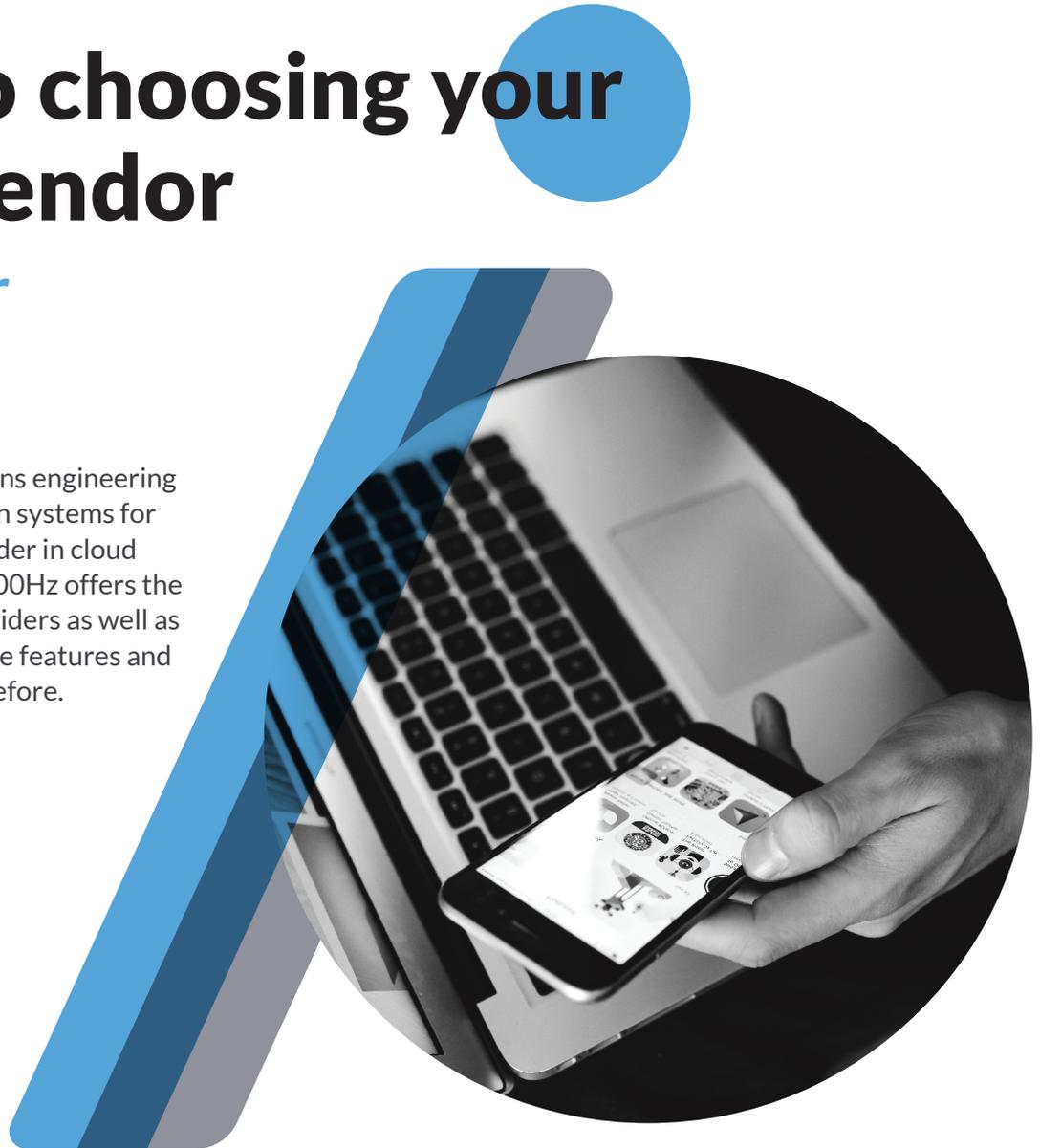


Guide to choosing your CPaaS vendor

White Paper

2600Hz is a telecom solutions engineering firm building communication systems for businesses of all sizes. A leader in cloud communications design, 2600Hz offers the reliability of the legacy providers as well as the flexibility of cutting-edge features and scalability like never seen before.





Intro

Communications Platforms as a Service (CPaaS) has entered the scene as one of the biggest disruptions to business communications solutions in recent years. It delivers a newfound level of flexibility to businesses hoping to integrate voice, text, and video solutions into their products. By leveraging CPaaS, companies can extend their offerings to any capable devices on the Internet and add to their ability to serve customers. CPaaS also delivers benefits like increased authentication, scalability, and flexibility over traditional business communications.

The CPaaS market has exploded since gaining widespread visibility in 2015, and is expected to grow to a predicted \$8.1 billion by 2019. As businesses of all sizes adopt CPaaS solutions for their own use, it's going to be important to understand the benefits and drawbacks of vendors. Luckily, the list of the most reliable and tested contenders is rather short. We've collected them in this guide to make it easier for business leaders and technology resellers to identify which of those vendors will be the best fit for them.



The Big 4

Four CPaaS vendors stand apart as the largest and most well-known: Twilio, Nexmo, Tropo, and Plivo. Read on to discover the background of each and some of the reasons why they've risen to the top of many businesses lists as viable providers.



Founded in 2007, Twilio is considered an industry leader by many, with an estimated market share as high as 80%. According to their reports, approximately one million developers hold accounts on the Twilio platform. Twilio has been fairly successful at achieving media coverage between their announcement to file for an IPO in June of 2016 and their purchase of WebRTC provider Kurento. Purchasing Kurento opened new possibilities for leveraging WebRTC, a tool for embedding real-time communications in web-based software. As a final testament to their brand's strength, Twilio is commonly associated with high profile companies like WhatsApp, Uber, and AirBnB, all of whom rely on Twilio APIs to power some functions of their respective products.

Support

Twilio customers generally give the company and its products positive reviews, and some investigation shows that that feedback is warranted. The company has set up a very thorough library of documentation to support their offerings. Current users and developers can access tons of details related to the system's REST APIs and SDKs, and Twilio regularly interacts with their active community in order to best serve their customers. Meanwhile, newcomers can refer to quickstart guides, tutorials, and more as an introduction to the platform. As a result, many consider Twilio to have set the industry-standard for supportive documentation.

Twiml

While many CPaaS providers rely on webhooks to pass event notifications between applications, Twilio took a different approach with TwiML. TwiML is a proprietary language based in XML, which is considered simpler by many developers when compared to web services. Due to its ease of use when writing call flow actions and inbound call activity hooks, TwiML has been an attractive draw for many of Twilio's customers.



Offerings Breakdown

Pricing Tiers: Pay-Per-Use with varying Support Plans

- Free
- Bootstrap: \$500 per month
- Premium: \$1,500 per month
- Personalized: \$5,000 per month
- Recently announced an Enterprise tier with additional security and access management features

Usage Rates

VOICE

- \$1.00 per month per number
- Outbound calls: \$0.015 per minute
- Inbound calls: \$0.0075 per minute
- \$0.005 per SIP instance, inbound and outbound
- Call recording: \$0.0025 per call
- Free basic conference calling
- Telephony is hosted on Amazon AWS
- Customers must use Twilio as their voice carrier

SMS TEXT/MEDIA

- \$1.00 per month per number
- \$0.0075 per message, inbound and outbound
- Inbound picture messages: \$0.01 per message
- Outbound picture messages: \$0.02 per message
- SMS Short Code Number: \$3,000 per three months, plus setup fee
 - Short Code messages: \$0.005 per message, inbound and outbound

Video

- Offering currently in beta
- \$0.01 per video room participant per hour
- When connections aren't possible, TURN relay connections are provided, priced per GB based on network transversal

Chat

- Channel creation, user updates, and user deletion actions: \$0.00075 per action
- Read requests for obtaining message lists: \$0.000075 per read
- Sent message or user status notifications: \$0.000075



Similar to Plivo, Nexmo is a younger company that emerged in 2010 and quickly made a name for themselves as a leader in CPaaS technologies. Their global network of over 1,000 carriers is the largest among the group reviewed in this list, and they utilize patent-pending adaptive routing techniques to help customers avoid queues. Despite their relative youth, Nexmo boasts some impressive usage numbers, with more than 350 enterprise customers, a network of over 114,000 registered developers, and an estimated 5 billion API calls made per year. Since they've made such strong waves in the global CPaaS market, big telecom player Vonage recently acquired Nexmo in 2016.

Customer Experience

It's clear from the moment you start investigating Nexmo that they put a huge emphasis on customer satisfaction. Their global support team is available 24/7 and boasts a 91.9% satisfaction rating, and more than 80% of support tickets receive a response within an hour. The Nexmo website even cites the founders' dedication to serving their customers, listing out their satisfaction ratings and total resolved tickets. Many users cite the support library as very comprehensive, and give praise to the simplicity and usability of the platform itself.

Messaging Integration

Possibly the most prominent differentiator of Nexmo is the ease with which it integrates with dedicated messaging applications. Prominent platforms like Facebook Messenger, WeChat, and Viber are just a few of the platforms available for use with the Nexmo Chat App API. These platforms are seen as disruptive in many ways, and are predicted to take on a much larger role in business communications over the next decade due to the development of tools like chatbots.



Offerings Breakdown

Voice

- \$0.71 per month per number
- Outbound calls: \$0.0135 per minute
- Inbound calls: \$0.0038 per minute

SMS Text/Media

- \$0.71 per month per number
- Outbound messages: \$0.0061 per message
- Inbound messages: Free
- SMS Short Code Numbers: \$1,000 per month
 - Vanity numbers are available at \$1,500 per month
 - Outbound messages: \$0.0061 per message
 - Inbound messages: \$0.005 per message



Back in 1999 when CPaaS was an emerging industry, a company named Voxeo established itself as a provider. Voxeo was eventually acquired in 2013, and their CPaaS offering was packaged under a separate brand, Tropo. Tropo continues to provide a strong showing in the CPaaS space today, and their success contributed to technology giant Cisco's decision to acquire them in mid-2015.

The Cisco Factor

Cisco's presence as a technology hardware provider is felt in almost any industry, and Tropo has taken advantage of this fact. Due to their connection with Cisco and its worldwide network of channel partners, Tropo solutions are available to businesses just about anywhere. Tropo relies on existing relationships with some of the biggest carriers around, meaning communications made with the Tropo API are almost guaranteed to leverage top-tier carriers and improve overall quality and reliability. Tropo also has access to a vast population of developers, a critical factor to how CPaaS businesses can grow. This developer network comes from professional connections they've already made over the relatively long life of the company, as well as Cisco's DevNet community. For companies already relying on Cisco for cloud technologies or other services, CPaaS functionality on Tropo is now readily available.

Security

Due to Cisco's depth of industry knowledge, Tropo is expected to raise the bar for CPaaS security processes. Many technology and information officers at businesses are still wary of public or hybrid cloud-based systems due to a lack of precise control and custom security at the infrastructure level. While rigorous industry standards are in place for providers to address these concerns, cybersecurity is still a potential threat.



Offerings Breakdown

Pricing Tiers: Pay-Per-Use with varying Support Plans

- Development: Free
 - Developers can operate in a Tropo environment with supplied numbers for testing
- Production: Free, Pay-per-Use
 - Only available to Independent Software Vendors (ISVs)
- Enterprise: minimum \$2,000 per month
 - Includes a revised billing system, enterprise SLAs, and dedicated clusters

Usage Rates

VOICE

- Free
- \$1.00 per month per number
- Outbound calls: \$0.015 per minute
- Inbound calls: \$0.0075 per minute
- \$0.005 per SIP instance, inbound and outbound
- Free call recording

SMS TEXT/MEDIA

- \$1.00 per month per number
- \$0.0075 per message, inbound and outbound
- SMS Short Code Number: \$750 per month
 - Vanity numbers available for \$1250 per month



Plivo arrived on the CPaaS scene in 2011 after receiving startup seed funding from investment firm Y Combinator. According to their website, they are “a Cloud API Platform and a Global Carrier Services Provider for Voice Calls and SMS.” Much like the other CPaaS providers featured in this guide, Plivo offers APIs to add more communication features to web or mobile applications. Their value message is strongly tied to providing truly global telecom access to developers.

The gem at the heart of all Plivo offerings is their infrastructure. Their network is regularly tested and fortified against disaster, and Plivo provides a 99.95% uptime SLA for all customers. They have datacenters and Network Operating Centers (NOCs) that are strategically located around the globe to serve customers reliably in different geographic locations. Plivo also holds themselves to a latency standard of under 50 ms between carriers and end phones, which contributes to their overall call quality.

Carrier Reliability

Plivo’s global approach to telecom is evidenced by their partnerships with local carriers in over 100 countries. Using these local carriers often provides call quality improvement for customers in the respective region, and Plivo is careful to evaluate carriers and only add the best to their roster. To deliver consistent services, Plivo relies on direct-to-carrier communication for SMS messaging to maximize deliverability. Included in their service agreements, Plivo offers carrier relationship management, which includes pricing negotiation services, automatic management of carrier contracts, and regulatory compliance audits to minimize service disruption at any given time.



Offerings Breakdown

Voice

- \$0.80 per month per number
- Outbound calls: \$0.012 per minute
- Inbound calls: \$0.0085 per minute
- \$0.003 per SIP instance, inbound and outbound
- Free call recording & storage
- Hosted on dedicated servers on the Plivo network

SMS Text/Media

- \$0.80 per month per number
- Outbound messages: \$0.0035 per message
- Inbound messages: Free
- SMS Short Code Numbers: \$3,000 per three months
 - Vanity numbers are available at \$4,500 per three months
 - Outbound messages: \$0.004 per message
 - Inbound messages: Free
 - Additional SMS carrier fees apply for sending & receiving



A New Contender: 2600hz

In conjunction with the powerful KAZOO platform, 2600Hz developed the PIVOT app in order to provide telephony resellers the tools to create their own CPaaS products. Now, resellers utilizing KAZOO and PIVOT can customize and integrate voice features with other aspects of their business, like productivity applications or their own software products.

When resellers are able to develop their own CPaaS platform through PIVOT and KAZOO, the immense value in PIVOT's ability to customize comprehensive software becomes apparent. Instead of working within the bounds of what a typical CPaaS vendor can offer, KAZOO-enabled voice providers can control every aspect of their voice system and set up action triggers wherever they want. This "open playground" approach presents more opportunities for businesses and puts a new spin on the role CPaaS can play in the market.

KAZOO

What is KAZOO?

2600Hz's flagship product, KAZOO, is an enterprise grade class 4/5 softswitch built as a cloud services platform. Trusted by service providers and Fortune 500 companies, KAZOO provides voice and data services to millions of users globally. KAZOO's unique multi-tenant architecture is distributed and highly scalable, with flexible deployments and dynamic call control managed from one intuitive interface. When used in conjunction with PIVOT, KAZOO plays host to around 150 native APIs (with more in development), meaning businesses can integrate telephony functions pretty much anywhere they need to. The degree of flexibility that KAZOO and PIVOT provide developers simply does not exist through any other CPaaS framework.



True Telephony Solution

While other vendors have incorporated a variety of communication methods into their offerings, 2600Hz has always been a telephony solutions provider. The expertise in telephony that 2600Hz brings to market translates into a platform that already excels in implementing complex telephony solutions. In order to increase the value of the product to their customers, 2600Hz offers multi-level comprehensive support tiers that provide access to an elite engineering staff with career-spanning ties to development and innovation in the telephony space.

Bringing Your Own Carrier

One of the most exceptionally important differences between 2600Hz and other CPaaS providers is that 2600Hz is the only company whose product offers resellers the option to Bring Your Own Carrier (BYOC) as part of being their own CPaaS provider. Companies utilizing BYOC can select their own carriers, significantly reducing operational costs up to 80% over using the industry-standard of a predetermined carrier. For businesses that choose not to use BYOC, 2600Hz maintains a vetted network of top-tier carriers in order to maximize quality and value for their customers - all at a rate far lower than any other CPaaS vendor.

Offerings Breakdown

Pricing Tiers: Pay-per-Use with Support Plans

- Silver: \$500 per month
- Gold: \$1,500 per month
- Platinum: \$4,500 per month

Voice

- \$1.00 per number per month
- Outbound calls: \$0.0089 per minute (using 2600Hz carriers)
- Inbound calls: \$0.0049 per minute (using 2600Hz carriers)
- Approximately 150 APIs



Conclusion

Depending on the particular type of cloud-based communications solution a business requires, each CPaaS provider has its strengths. While some providers excel in ease of use, others offer lower costs or flexibility and customization. Compared to CPaaS competition, 2600Hz's platform and API's are exceedingly more flexible, up-to-date, and comprehensive. Together KAZOO and PIVOT are the ultimate tools that enable developers to create a powerful and fine-tuned communications platform to fit the needs of your business now and well into the future.

While this guide was developed for interested parties to find the ideal partner fit for their business, we welcome any questions about how telephony can be incorporated into your own business model. The 2600Hz team is available to guide your business and find a way to deliver the necessary communication features to resellers and enterprise customers alike.

Contact the 2600Hz sales team today for more information, or to set up a free trial of KAZOO.

If you would like to find out more about 2600Hz please contact our sales team at sales@2600hz.com.



Vendor Comparison Chart

	Twilio	Nexmo	Tropo	Plivo	2600Hz
SMS	Notify	✓	✓	✓	Planned
Voice	✓	✓	✓	✓	✓
Video	✓	✓	✗	✗	✓
IP Msg	✓	n/a	n/a	✓	✓
Call Recording (per min)	\$0.00	✓	Included	Included	Included
International	✓	✓	✓	✓	✓
REST API	✓	✓	✓	✓	✓
Numbers local (per mo.)	\$1	\$0.71	\$1	\$1	\$1
Authentication	Authy	via SMS	n/a	via SMS	✓
APIs	20	12	3	5	~150
Language	Twiml/ Java/ Python	VoiceXML/ JSON	JSON/ JS/ RUBY/ PHP/ Python	Python	Erlang+
Customer's to note	UBER/ AirBnB	Github/ Expedia	Babelverse	Mozilla/ Netflix	Orange/ VirtualPBX
Framework	Asterisk	Internal	PRISM	FreeSWITCH	KAZOO
Web RTC	✓	✓	✓	✗	✓
Open Source	OpenPBX	✓	✗	Plivo Framework	KAZOO Open Source