



Best Practices for Voice Calling with Plivo Voice API



Introduction

This guide provides some best practices for using Plivo's Voice API, a powerful tool for making and receiving calls from within applications.

A voice call involves conversation between two or more parties; typically, one of them is someone within your organization, or at least a message generated by text-to-speech software. Plivo's Voice API lets software developers easily integrate voice calling with application programs. It simplifies the integration of voice calling within applications, bridging web- and internet-based data with the public switched telephone network (PSTN) to reach destinations from traditional phones to mobile devices, SIP endpoints, and web browsers.

Without a cloud communications platform like Plivo, handling telecom tasks requires a level of expertise that virtually no organization has — not to mention a great deal of time and expense. Plivo's Voice API lets developers focus on enhancing customer experience rather than being tangled in the intricacies of infrastructure management and telecom complexity.

While leveraging capable technology is crucial, adopting the right practices can further optimize your results. Here are our top recommendations for getting the most out of Plivo's programmable voice capabilities.

Where can I call?

With any CPaaS, you can make calls to and from any country that your provider supports. In Plivo's case, you can make calls to more than 190 countries — just about anywhere in the world. We also support inbound calling to more than 40 countries. The details are on [our coverage page](#).

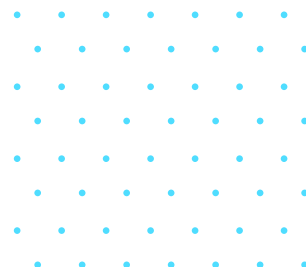
What kinds of numbers should I use?

When you think about making a phone call, you probably think about calling a regular number associated with a local landline or a mobile device. In telephony parlance, these are sometimes called long codes — in contrast with short codes, those five- or six-digit numbers that businesses use to text people. Long codes are used for local, national, and mobile numbers; the latter are often the only type of numbers that support inbound and outbound messaging.

Long codes are well-suited for businesses that do both outbound and inbound calling. They allow businesses to reach customers via local numbers, which improves the chances of customers picking up calls. Local numbers can improve reach, identification, and call attribution.

Many countries outside the US and Canada offer a specific long-code type called national numbers that can be reached from anywhere in the country at the same cost. National numbers are ideal for large businesses with a national presence. In some countries, national numbers can only be reached from within the country, although this varies based on the network of the phone provider and country from which a national number is being dialed.

Toll-free numbers are an alternative to long codes. Businesses use toll-free numbers when they want their customers to reach them at no cost. Incoming calls are billed to the called party and are free of charge for the calling party. Most countries reserve a set of dialing prefixes to denote toll-free services. In North America, 800, 888, 877, 866, 855, 844, and 833 denote toll-free numbers. Businesses can use toll-free numbers for two-way messaging as well as voice.



Toll-free numbers are best suited for businesses that have predominantly inbound calling use cases, and especially for businesses that expect large volumes of inbound calls to direct via automatic call distribution (ACD). In such cases it's best they absorb the cost of the call rather than forcing customers to pay the cost. Support centers, NGOs, and other organizations that attract inbound calls can benefit from using toll-free numbers.

Long code pros

- ✔ Long codes are local numbers, so they can give your business a sense of presence in a specific geographic area, which can help customers feel comfortable.
- ✔ Long codes may be quicker and easier to obtain than toll-free numbers (though renting either kind of number from Plivo is equally quick and easy).
- ✔ Monthly fees and per-call usage rates for long codes are less expensive than costs for toll-free numbers.

Long code cons

- ✘ If your business moves or expands to a new geographic area, you may need to get a new local number or update your contact information.

Toll-free pros

- ✔ Toll-free numbers give a business a professional appearance, as they're often associated with larger or more established businesses.
- ✔ Toll-free numbers can be dialed from anywhere within a country, which can be helpful for businesses that have customers or clients across a wide geographic area.
- ✔ Vanity toll-free numbers (such as 1-800-GO-PLIVO) can be easier to remember than local numbers.

Toll-free cons

- ✘ Monthly rental costs for toll-free numbers are higher than those of local numbers, and of course you have to pay for all toll calls you receive on them.

Overall, the choice between a local or national long code or toll-free number depends on your needs and goals. Consider factors such as your target market, geographic reach, and budget when making your decision.

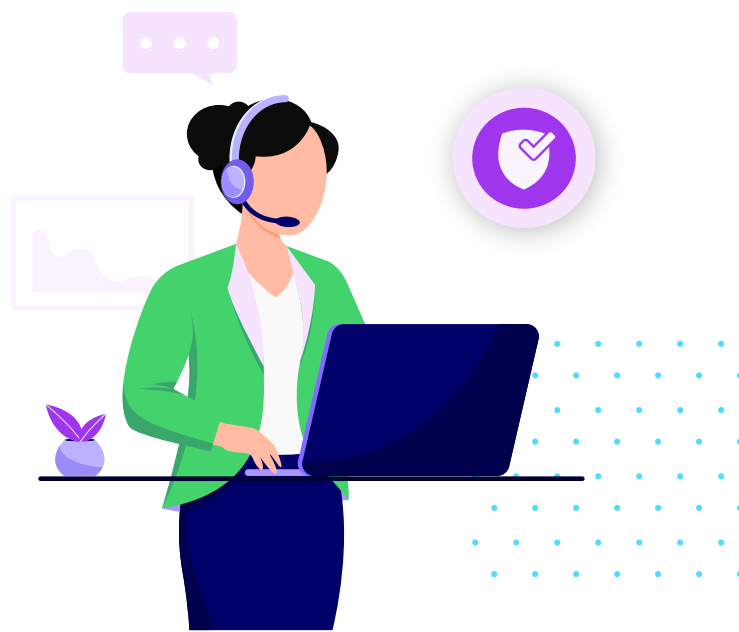
What calling practices should I avoid?

To stay on the right side of carriers and country regulators, you must use a CPaaS for good and not for evil. You can automate sending voice calls, but you can't do it while attempting to deceive or defraud the people you call.

Many countries maintain a "do not call" registry — the US has a [National Do Not Call Registry](#), for instance, and India has a [National Customer Preference Register \(NCP\)](#). Don't make commercial automated A2P calls to numbers on a "do not call" list unless you have prior express consent. Generally speaking you can make noncommercial calls or calls dialed manually without prior consent, but check regulations in your country.

For your own benefit, you should limit your ability to call countries where you have no business and no customers. Some countries have problems with scammers attempting to swindle companies through [toll fraud](#). Plivo lets customers set up [geo permissions](#) to enable or disable calling to designated countries.

Finally, you need to maintain healthy calling trends. Telephony providers expect you not to abuse your service by making an exceptional number of unanswered or short-duration calls. Various regions set what are called fair usage thresholds; if you exceed them, you'll hear from your provider, which may suspend, limit, or levy a surcharge on your account. The fair usage policy should be spelled out in your provider's terms and conditions page.



How do calls get classified as fraudulent or spam?

Carriers don't want their customers to be harassed by unwanted calls. They take many steps to filter out calls from bad actors.

Scammers often try to fool carriers and consumers through caller ID spoofing — faking the number they're calling from to make it seem local or even to make it seem a specific familiar number. In 2021, the US Federal Communications Commission (FCC) began requiring carriers to implement caller authentication, using a set of protocols called [STIR/SHAKEN](#), and [Canada soon followed](#). Carriers now pass along attestation information with each call that represents how confident the service provider is that the number's owner is truly the one placing the call.

Successful STIR attestation establishes that the caller ID used by the caller is not spoofed, but that's not the only factor that affects whether a call may be spam. The terminating telephone service provider can contact independent analytics engines to get additional feedback about the calling number. STIR-attested calls may be marked as suspicious based on the feedback provided by the analytics engines. Calls that carriers can't attest or that are flagged by the analytics engines may be marked as "scam likely" on recipients' handsets. Consumers can get similar details by using third-party apps that are powered by analytical databases to assess the trustworthiness of the calling number.

A cloud communications platform like Plivo can sign outgoing calls on your behalf and ensure calls get proper attestation. We can also validate the attestation levels on incoming calls, providing you with information that you can use to decide whether to answer the calls. To ensure proper attestation, Plivo customers must submit to us their business information and the phone numbers they use as caller IDs so they can be verified.

Along with caller ID attestation, carriers look at other factors, such as calling patterns, the volume of calls coming from a caller ID, and feedback from call recipients.

Finally, carriers may filter calls based on end user feedback. To avoid having your calls being flagged as spam, avoid calling practices that your recipients may report as spam.



How can I evaluate voice API platforms?

If automated voice calling is a strategic weapon for your company, you naturally want to choose the best cloud communications platform on which to deploy it. Different companies weigh different factors differently, but here are some to consider.



Call quality

Voice calls that sound laggy, choppy, or echoey reflect poorly on your organization — and on your choice of communication platforms. The best cloud communications providers spend time and effort ensuring that their calls go out only on high-quality, low-latency routes. Plivo put together its [Premium Communications Network](#) over more than a decade. We've established direct relationships with more than 1,600 carrier networks and provide connectivity in 190+ countries. Our strict evaluation process approves only carriers that meet the highest industry standards. We have seven points of presence (PoP) strategically located near high-traffic internet exchange points (IXP) on five continents, which helps us deliver sub-50-millisecond connections to carriers to give customers the best voice call experience.

We talk about how to judge call quality in the next section.



Reliability

If the network behind the voice APIs you depend on isn't there when you need it, it's no good to you. Plivo is engineered for [reliability](#). We guarantee 99.95% uptime, and we're willing to raise that to a 99.99% SLA for [enterprise](#) customers. We invite you to check our uptime record on our [status page](#).



Reach

Your communications platform should serve every country in which you're likely to do business. Not every CPaaS can claim that, but Plivo can. We can send calls just about anywhere in the globe. In fact it's probably easier to name the places we don't serve: sorry Antarctica, sorry North Korea.



Support

Using a cloud platform for communication services beats maintaining your own telecommunications infrastructure, but shit happens. Plivo prides itself on providing responsive, helpful support. All customers get free support by filing tickets through our support portal. We also offer a range of [premium support plans](#) for businesses that need guaranteed response times or support via phone or Slack chat.



Familiar APIs

If you've used another CPaaS, adding a second platform often makes sense. This [multicloud approach](#) can help businesses improve uptime, balance traffic loads, gain unique platform-specific features, and optimize costs by taking advantage of each platform's best rates.

Developers, however, often worry that adding a second platform will take an irritating amount of time and resources because of differences in the syntax and arguments between the two platforms' APIs. It's helpful, therefore, to add a platform whose APIs will immediately feel familiar to developers familiar with a commonly used API. That's the approach Plivo took in making its APIs similar to those of market share leader Twilio.



Cost

While factors like call quality, reliability, and reach are must-haves, attractive pricing may be just nice to have — or, in budget-conscious organizations, it may be of prime importance. Any organization considering a voice API platform should try to get an idea of a platform's cost by estimating their monthly usage and pricing out costs for things like monthly number rental and call units made and received. [Plivo publishes its prices](#) right on our website so you can compare our costs with other communications platforms. We think you'll like what you see; given our range of features and our reasonable prices, Plivo is a great value. If your monthly outlay is likely to be more than \$1,000, [contact our sales team](#) about the possibility of discounted rates through an annual agreement.

How can I judge call quality?

Call quality is one of the most important factors in choosing a cloud communications platform. Quality is somewhat subjective, but it depends on factors such as [latency](#), [jitter](#), and [packet loss](#), all of which communications providers can measure. We can combine those measurements to yield a Mean Opinion Score for each call. Plivo exposes MOS information in each call's detail record, along with other [call insight details](#).

Insights		Read Docs	
Suspected Issues	Suspected by Plivo	Reported by User	User Remarks
No issues were observed on this call			
Plivo Quality Score : Good - ★★★★★		ⓘ	User Rating : ☆☆☆☆☆

Plivo also has an [API that lets customers post call quality feedback](#).



What can I do with a voice API beyond making bulk calls?

While bulk calling might be a simple and obvious use case, a voice API lets you do much more.



Receive calls

Phone lines go two ways, so you can write applications that handle incoming phone calls. You can, for instance, program an [interactive voice response \(IVR\) system](#) to allow callers to navigate a menu of choices to reach recorded information or a particular department or agent. With Plivo, callers can make choices on IVR menus either by speaking or by pressing a key on the phone's keypad.



Record calls

Depending on the law in your locale, you may be able to record calls for your records.



Speech to text and text to speech

Your voice API can use speech recognition to make a text record of conversations spoken on the call. Text transcriptions are more easily indexed and searched than voice recordings.

Similarly, a voice API can take plain text — a restaurant's daily specials, for instance, or a precinct's voting location — and speak it on a call using text-to-speech technology. Plivo's Voice API takes advantage of [Amazon Polly](#) and [Speech Synthesis Markup Language \(SSML\)](#) to provide natural-sounding spoken text.



Conference calls

Who says a voice call needs to be limited to two parties? A voice API lets you set up conference calls, including ones that require a PIN to join. It also lets supervisors listen in on agents' conversations for coaching purposes.





Number masking

You can anonymize communication between two parties by using **number masking**, a technique to safeguard personal phone numbers for use cases such as ride-hailing and package delivery. When you add number masking to an application, callers dial a Plivo phone number that acts as a proxy between the caller and the call recipient, and the proxy instantly and automatically connects to the destination number. Neither party can see the other's real phone number. Plivo's Number Masking API is a turnkey solution that helps you get started faster.

And more

With Plivo, all of these use cases take advantage of **XML directives** that underlie our platform, and you can combine these XML elements with our APIs and program logic to create virtually any voice calling use case.

How can I get started with Plivo's Voice API?

Plivo's cloud communications platform provides you with all the technology you need, and we build in guidance on how to use it to stay in compliance with regulations and industry best practices.

[Log in](#) to your account or [sign up](#) today!

