

The 2022 Guide to CPaaS: Evaluation Criteria for Selecting a CPaaS Partner

Learn how to find the perfect Communications Platform as a Service (CPaaS) partner to unify and scale your communications.

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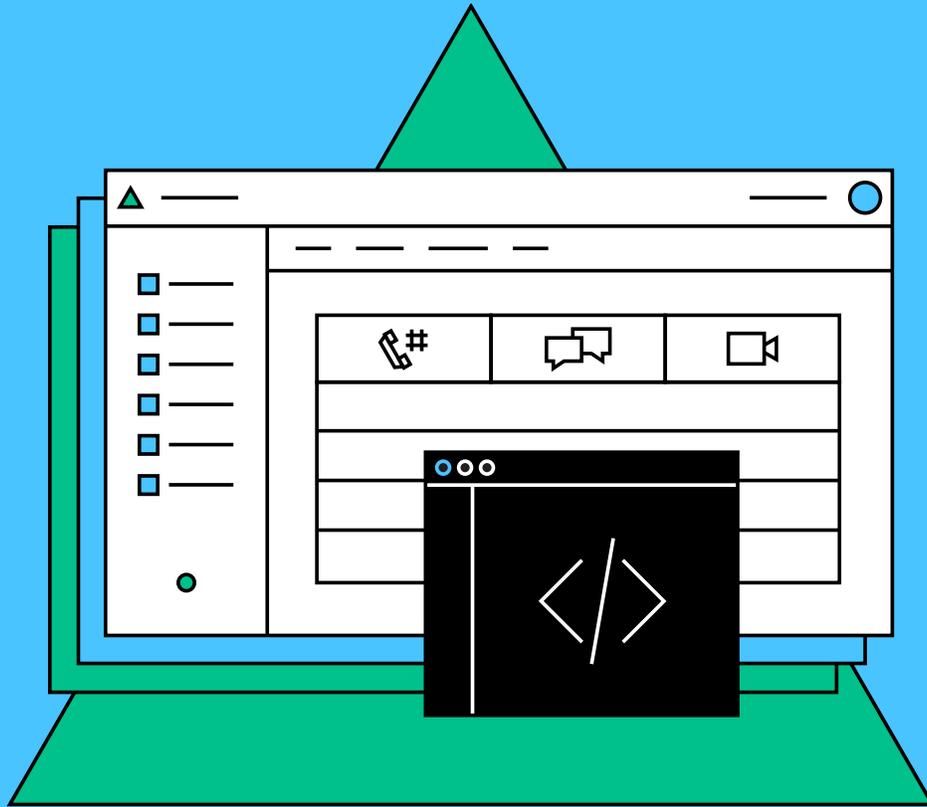
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**What is CPaaS
and who is it for?**

CPaaS (Communications Platform as a Service) is cloud-based software¹ that allows businesses to integrate real-time communications such as messaging, Voice over IP (VoIP), video, and WebRTC directly into an application.

CPaaS companies offer API-based solutions built for customized backend integration and scalable performance. Businesses use CPaaS to send mission-critical communications and create better customer experiences.

CPaaS use cases are varied, and nearly every business can benefit from implementing one or more of these solutions. Across industries, businesses are using these tools to transform their operations and customer journeys. Solutions include...



Voice APIs

Integrate advanced telephony features into your applications: conference calling, media streaming, text-to-speech, call recording, and answering machine detection.



Messaging APIs

Enable programmatic authentications, alerts, notifications, and interactions with customers via their preferred channels, like SMS or WhatsApp.



Number Solutions

Instantly port and provision local, toll-free, short and long code numbers around the world.



SIP Trunking

Build global connectivity for your VoIP infrastructure that improves call speed and quality and saves calling costs.



Video APIs

Integrate video capabilities into your platform so you can host, configure, record, and monitor calls, enable voice connectivity, and more.



Wireless IoT

Use configurable SIM cards to remotely manage your IoT devices, including payment terminals, patient wearables, and fleet management tools.

CPaaS is the development framework that brings your existing communications channels together to create a seamless omnichannel experience—without having to build and maintain complex telecommunications technology in-house.

The right CPaaS provider makes backend infrastructure and connectivity easily accessible, so your team can focus on building custom communications experiences that meet the needs of your business. CPaaS is for you if you...



Build robust applications that leverage communications channels



Communicate in real time through voice, video, and messaging channels



Send, receive, and manage calls and messages globally



Track and analyze communications data



Verify individuals with two-factor authentication (2FA)



Use SIM cards to connect and manage wireless IoT devices

Gartner predicts that by 2023, 90% of organizations will be using CPaaS².

Let's take a look at two businesses that were able to select and configure the right combination of communications products for their use cases:

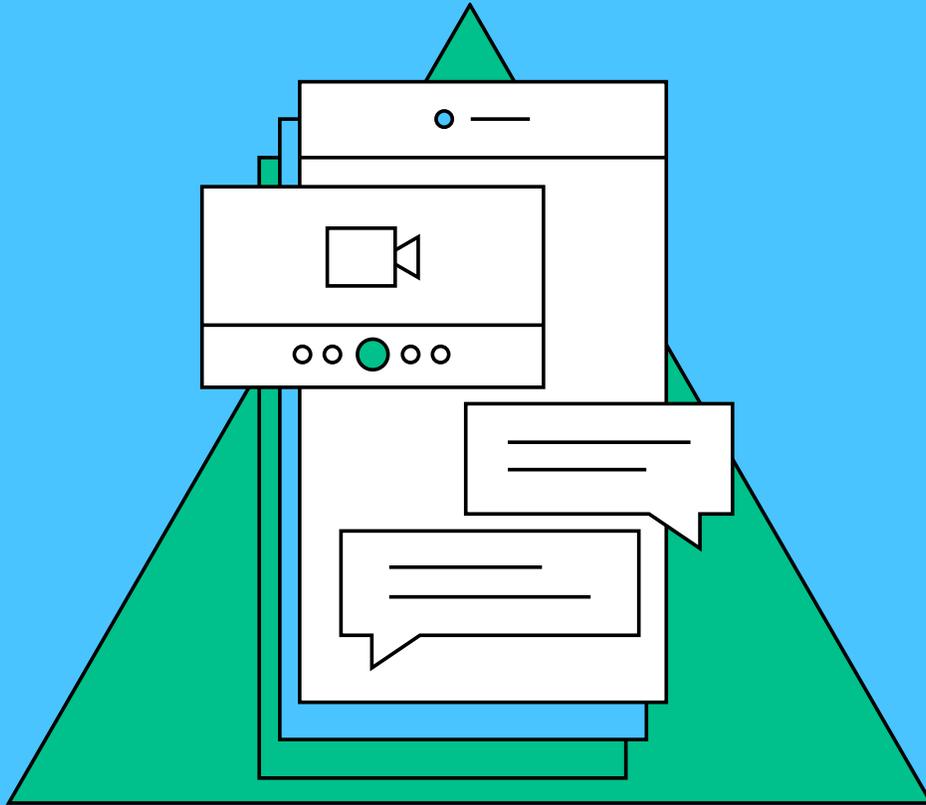


Lightspeed³, a company that powers retail and restaurant business sales around the world with point-of-sale and payment solutions in the cloud, needed a carrier that would allow it to easily scale its call volumes. Lightspeed chose Telnyx as its CPaaS provider, to make use of its Voice, Numbering, SIP Trunking, Porting, and self-service portal solutions. As a result, **Lightspeed's reported call failures dropped by a whopping 99.9%**, transforming the efficiency of its contact center and saving invaluable time for its IT team.



Replicant⁴, a company that uses Conversational AI to solve customer problems over the phone, needed talk-time latency of less than one second. Replicant chose Telnyx for its carrier-grade Call Control API, Elastic SIP Trunking, global numbers, and networking offerings. **Telnyx helped Replicant cut its talk-time latency from over 3 seconds to under 1 second while reducing voice costs by 86%**, which enables it to offer better products to its customers at competitive prices as it continues to scale to new markets efficiently.

With CPaaS, businesses are driving higher revenue by consolidating communications providers, modernizing outdated tooling, and increasing customer retention and engagement through better customer experiences.



**Why you
need CPaaS**

Customers across retail, banking, travel, logistics, healthcare, and more expect to be able to engage with businesses on their own terms—on their timelines, and on the channels they prefer. Businesses can leverage CPaaS to build experiences that minimize response times, maximize brand accessibility, and automate cumbersome processes.

5.7x

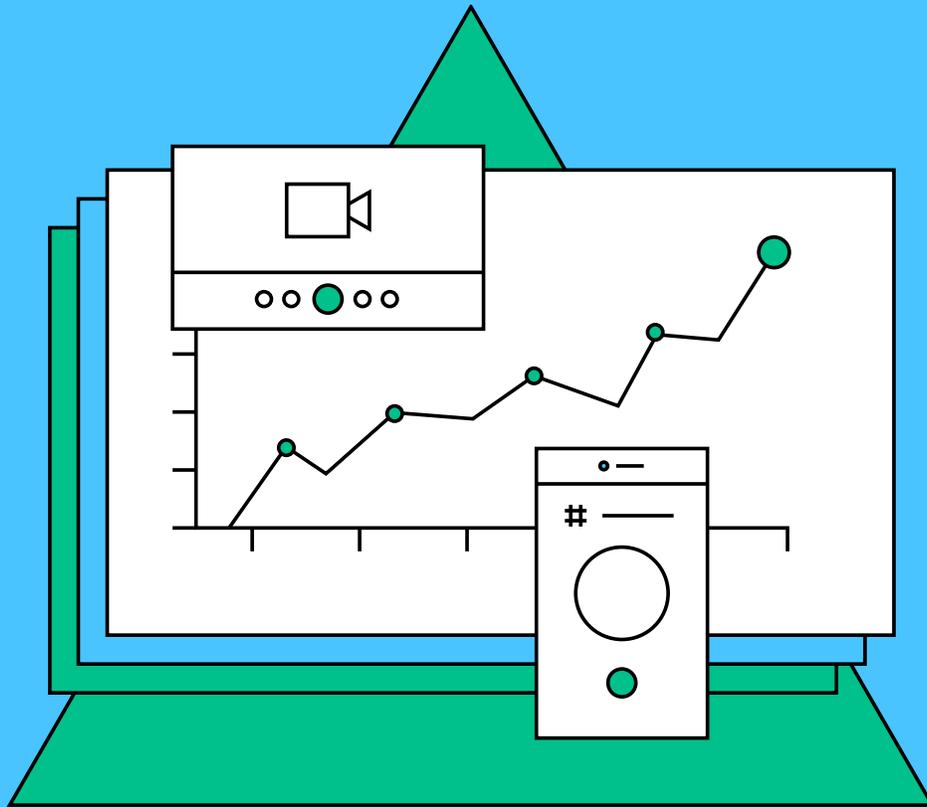
more revenue is brought in by brands with superior customer experiences, like those created by CPaaS.⁵

90%

of customers expect their interactions with a brand to be accessible and consistent across every communication channel, but less than 10% of enterprises have an established omnichannel presence.^{6,7}

98%

of companies using CPaaS effectively meet customer needs, compared to just 37% of non-CPaaS users.⁸



Trends driving CPaaS adoption

Analog systems and infrastructure can no longer support real business needs: 76% of customers prefer different channels of communication⁹ depending on context.

Companies around the world are making the switch to digital/IP systems and cloud-based communications solutions. Four trends we're seeing that drive this switch to CPaaS solutions are:



The Public Switched Telephone Network (PSTN), also known as the Plain Old Telephone Service (POTS), will be obsolete by 2030.

Due to advancements in telephony and communications, there is a global initiative to decommission physical telephony connectivity. Legacy infrastructure is being decommissioned around the world.

The UK is switching off the PSTN¹⁰; all its phone lines and connected services will be digital by 2025. Ten other European countries¹¹ also plan to move away from traditional copper-wire telephone systems within the decade. Australia¹² and New Zealand¹³ plan to complete phase-outs of their legacy telephony systems by the end of 2022; users have mere months to migrate to IP-based systems.

Though the change seems drastic, this global trend is the catalyst for modern telephony, and will give users a better experience and room to adapt in the future. VoIP systems remove the need for local infrastructure—powering flexible, scalable systems while reducing costs. Switching from the PSTN to a digital system¹⁴ means faster, higher-quality telephony services at lower costs.



Global regulations increasingly require IP-based communications to meet compliance standards.

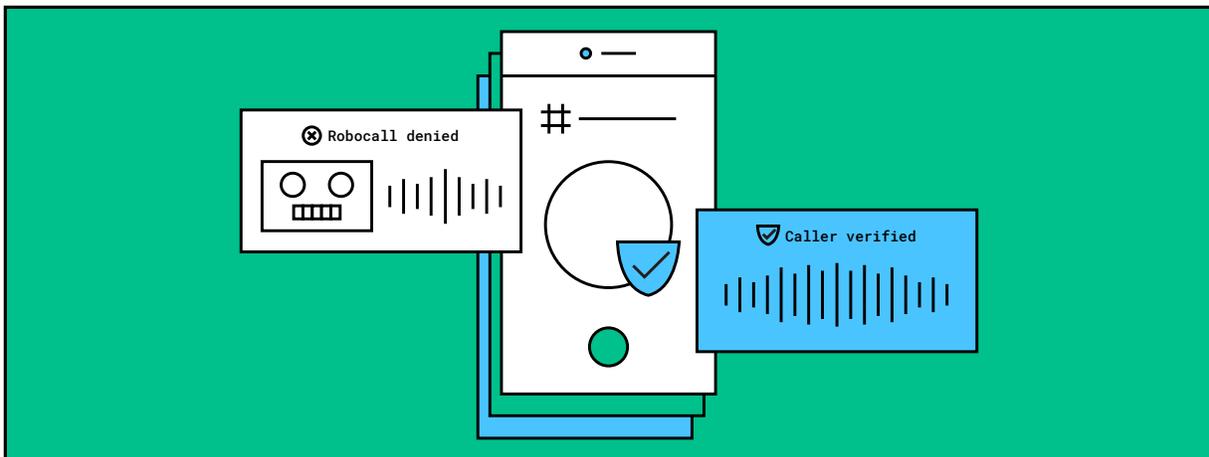
Increasingly, telephony regulations are mandating processes that can only be met by managing calls, messages, and data flows through IP networking.

For example, in the US and Canada, the Federal Communications Commission (FCC) has implemented a framework called SHAKEN/STIR¹⁵ (Secure Handling of Asserted Information using toKENs [SHAKEN] / Secure Telephony Identity Revisited [STIR]), that combats fraudulent robocalling.

SHAKEN/STIR requires call providers to complete much more extensive validation methods when calls are placed through their platforms, in order to verify that a call originator is who they say they are. And many of these validation steps are only possible through VoIP. So, businesses across North America are transitioning to calling systems entirely hosted on VoIP to achieve the tracking, storage, and communication of authentication information that analog calling systems cannot.

As efforts to reduce fraudulent abuse of telephony technology continue, we can expect to see regulations similar to SHAKEN/STIR roll out globally in the near future. The best way to get ahead of this movement and ensure continued compliance is to adopt VoIP now.

Check out the [Telnyx blog to learn more about SHAKEN/STIR¹⁶](#) and stay up to date on global telephony regulations.





Companies need API access to support their telephony solutions.

CPaaS APIs provide simple, configurable access points to complex telecommunications systems that take time and expertise to establish and maintain. Well-made CPaaS APIs enable businesses to customize and deeply integrate telecommunications capabilities into their platforms easily, in the way that best suits their specific use case. Popular CPaaS API use cases include...

Voice APIs that increase your control over call experience with features like:

-  Call recording
-  Answering machine detection
-  Text-to-speech/speech-to-text
-  Conference calling
-  Agent coaching

Number APIs that allow you to quickly build and deploy reliable, global solutions:

- Global numbers on demand (instantly search, provision, and port local, national, and toll-free numbers)
- Toll-free numbers (order custom vanity numbers and SMS-enable existing numbers)
- Number Lookup (use detailed number information to ensure deliverability and improve your customer experience)

Messaging APIs that allow you to send and receive SMS/MMS, short code, toll-free, and A2P 10DLC messages globally:

- Short code SMS (send and receive messages in high volumes via short code—trigger notifications, appointment reminders, two-factor authentication, and customer support chats)
- WhatsApp messaging (integrate the popular messaging app into your existing communications to interact with customers, offer support, and provide secure, branded, omnichannel customer experiences)
- Smart content handling (support for every language and emoji, opt-out management, and message concatenating and queuing)

Video APIs that power high-quality video and audio experiences:

- Create and manage video rooms
- Dial-in from the PSTN/SIP connection
- Participants API control
- Call recording
- Speaker detection
- Screen sharing
- Text chat

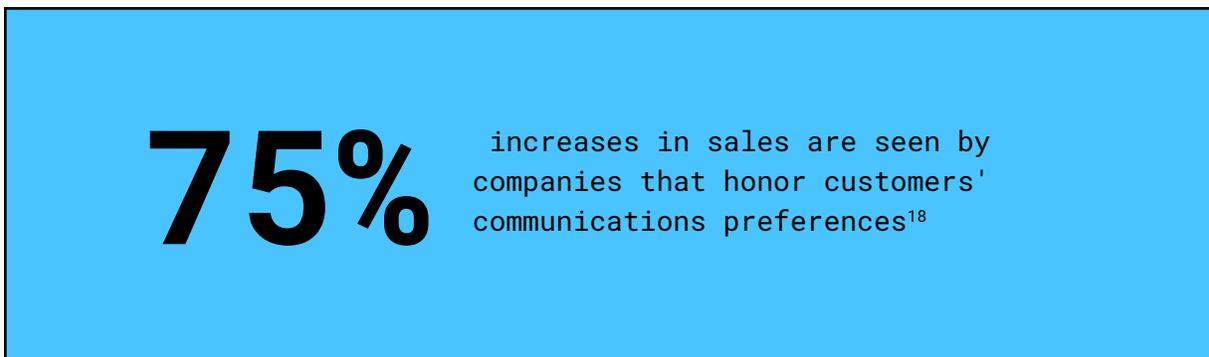
35% of tech leaders used APIs¹⁷ to generate more than a quarter of their organizations' 2022 revenue. Leveraging an API increases the functionality of existing products and saves your company time and money.



The nature of work is changing, and companies need a unified communications strategy to compete.

In the past, communications happened through a single physical phone system supported by a local carrier. Today, communications happen simultaneously and ubiquitously, but in isolated silos. Sales, marketing, customer service, and internal conversations often take place through a variety of disparate channels.

It's difficult to communicate efficiently if interactions take place in isolation. A unified communications strategy optimizes the work your company does and positions you to outpace competitors.



Customers today expect their needs to be met instantly, and on their terms. CPaaS solutions allow companies to create superior, scalable customer experiences.

In order to address these trends and build a unified communications strategy, companies need a CPaaS provider that offers them:

Control
Quality
Reliability
Flexibility

How do you translate those pillars into evaluation criteria and choose your provider? We outline what you need to know into the next section.



Checklist: CPaaS provider evaluation criteria

Use our checklist to evaluate any CPaaS provider and find a vendor that meets your needs today and will grow with you in the future.



Is the provider a licensed carrier?

Business at large has globalized, and real-time communications across geographies and timezones are more important than ever. Relying on telecom aggregators running on public networks doesn't cut it.

Shifting to a licensed carrier means you get direct access to technology and services that impact your business.

Licensed CPaaS providers control the quality of your experience and offer...

Speed:

Provision and port numbers in minutes, not months

Access:

Technical and regulatory teams that ensure compliance; global number availability

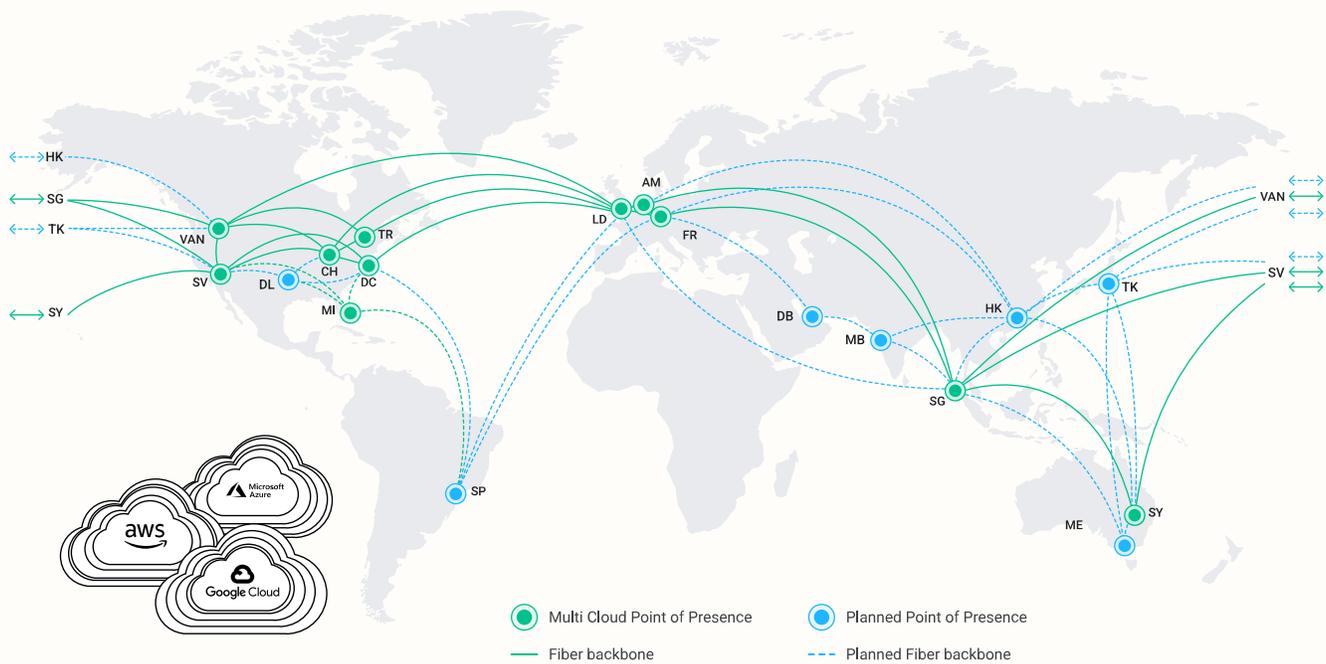
Cost savings:

Working with licensed carriers means you get carrier-direct pricing—saving up to 50% compared to aggregators

Support:

Self-service controls¹⁹ and API interfaces to easily...

- Search for and purchase global numbers with a few clicks
- Manage compliance and regulatory submissions
- Update location and emergency registration
- See call details for troubleshooting
- Build and test voice, video and messaging features



Is the network reliable and low-latency?

All data is treated equally on public networks, which results in congestion. When public networks become congested, your data has to wait in line. Wait time = high latency. When choosing a CPaaS provider, you need reliable, low-latency data transmission. Here are some tips to get you started...

Choose a private IP network. Private networks maintain complete control, transmitting your data over the path of least latency. Choosing a CPaaS provider that offers a private IP network²⁰ ensures you have lower latency and higher security.

Ask about multi-cloud architecture. Multi-cloud architecture prevents your communications systems from going down. Redundancy ensures uptime and uninterrupted communication within your business.

Evaluate the location and redundancy of Points of Presence (PoPs). Choosing a network with global PoPs²¹ means less latency; your data gets there quicker and more efficiently.

Reduce hops by choosing direct connections. Take your data where it needs to go with less exposure to public networks. Less hops = less latency. Reducing hops also limits the possibility of potential technical issues and makes it easier for a CPaaS provider to address any issues that may occur.



Does the provider offer quality and transparency?

Using a private network with distributed PoPs ensures system quality, but what about quality metrics at the call level? Your technical team needs more than system-level metrics like uptime and latency. They need complete transparency on every level (and should know if their provider is charging them extra for it). Your CPaaS provider should provide your team with visibility into quality metrics for every call. This allows you to troubleshoot and resolve issues right away.

For each call, you should have access to these metrics:

Mean Opinion Score:

a number that is from 1-5 which ranks a call's quality with 5 being the best quality achievable

Jitter:

data packets for a call are received out of order, leading to garbled audio during conversation

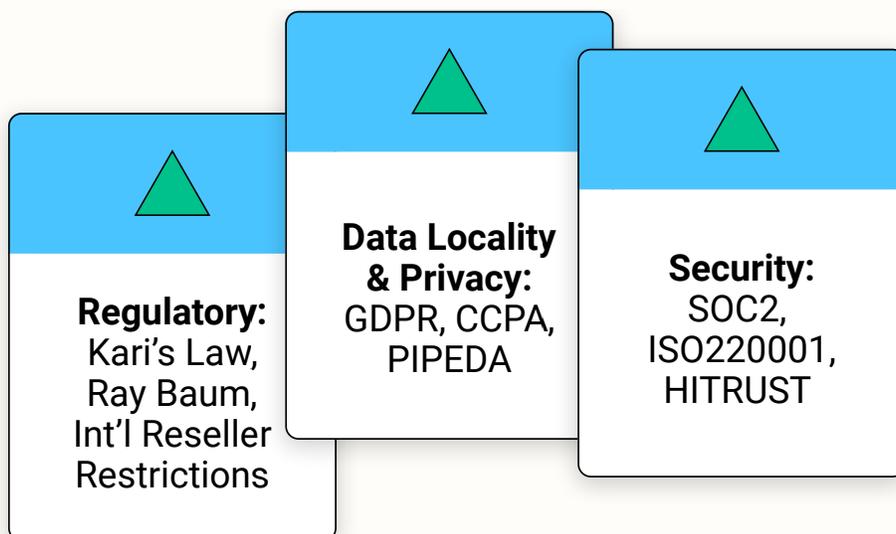
Packet Loss:

pieces of data get lost traveling through the network, leading to calls lagging or dropping



Can the provider manage compliance?

Licensed carriers work with local regulators to navigate ever-changing international regulatory requirements on your behalf. Make sure you're covered from a compliance standpoint. Evaluate these 3 areas to ensure that the CPaaS provider you choose can support your compliance and regulatory strategies both now and in the future.





Does the provider offer tools to build and scale?

Your CPaaS provider should offer the API capabilities, flexibility, speed, and expertise you need to grow your business. It should offer a broad range of scalability and customization; just because you don't need certain API capabilities right now doesn't mean you won't need them in the future. Look for...

- Pricing structures designed to charge you for features you use—not ones you don't
- 24/7/365 customer support that doesn't come at an additional cost
- Access to technical and regulatory expertise that makes your team's job easier
- A developer community that can build with your team the tools you need
- Self-service capabilities: a dashboard you can build in
- Flexible APIs that allow you to implement only the features you need

You're armed with a checklist that will help you select the best CPaaS provider—now it's time to take the first step.

The screenshot shows the Telnyx Developers API documentation page for the endpoint `GET https://api.telnyx.com/v2/available_phone_numbers`. The page is titled "List available phone numbers" and includes a sidebar with navigation options like "Responses", "Webhooks", "Errors", "Phone Numbers", "Messaging", "Connections", etc. The main content area displays the cURL command for the endpoint, along with tabs for other programming languages (Python, Ruby, Node, PHP, Java, .NET). Below the cURL command, there are sections for "Parameters" and "Success Response".

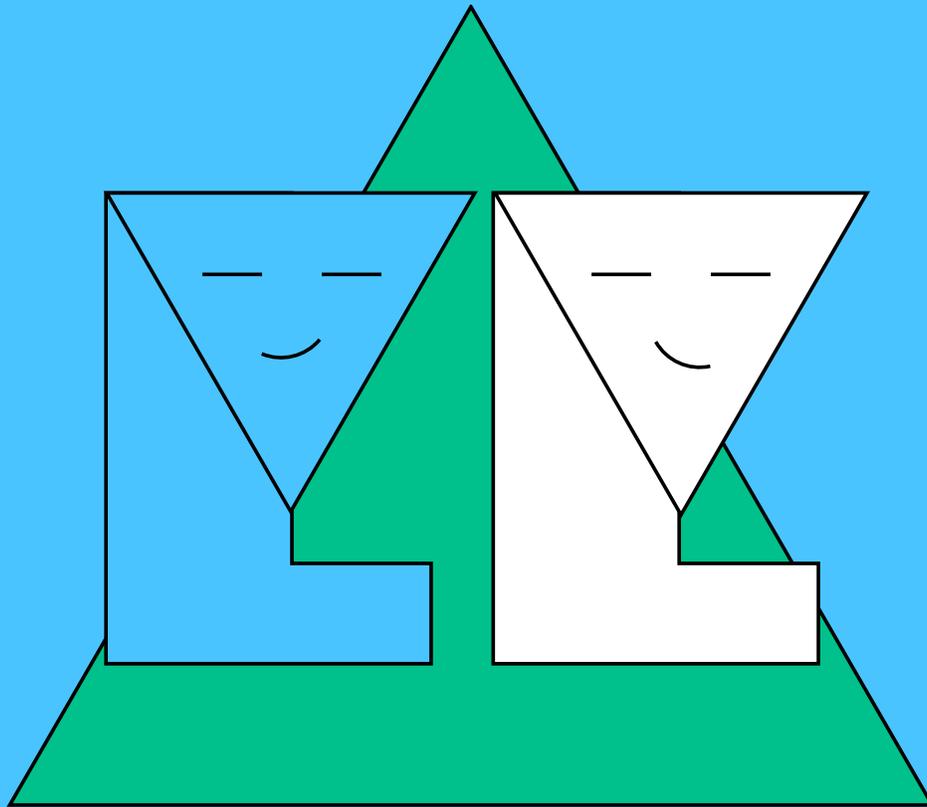
```
curl -X GET \
  --header "Content-Type: application/json" \
  --header "Accept: application/json" \
  --header "Authorization: Bearer YOUR_API_KEY" \
  --globoff "https://api.telnyx.com/v2/available_phone_numbers?filter[rating_center][]=CHICAGO%20HEIGHTS"
```

Parameters

Parameter	Type	Description
<code>filter[phone_number][starts_with]</code>	string (optional)	Filter numbers starting with a pattern (exclude NDC from start of this filter if used with 'national_destination_code' filter).

Success Response

```
{
  "data": {
    "phone_numbers": [
      {
        "phone_number": "1234567890",
        "rating_center": "CHICAGO",
        "rate_center": "HEIGHTS"
      }
    ]
  }
}
```



Choosing your CPaaS provider

Telnyx is a software-driven connectivity company designed for the future.

Our layered approach combines CPaaS capabilities with our status and owned infrastructure as an internationally licensed telecom service provider to deliver the solutions you need. We leverage our own private IP network, global PoPs, and multi-cloud redundancy to provide reliable, low-latency communications services.

Telnyx is a licensed carrier in over 30 countries. Cutting out the middleman allows us to drive efficiencies, provide better products to our customers, and set industry standards for price, value, and quality. Partner with Telnyx to build your ideal communications solution, with all the support and guidance you need to grow and scale your business.

Founded in 2009 with offices in Chicago, Dublin, Amsterdam, Warsaw, and São Paulo, Telnyx serves mission-critical communications for customers including Cisco, Philips, Slack, Red Cross, and more.

[Talk to one of our experts today](#)

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