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CPaaS
BUYER'S GUIDE

What's the **best** voice and messaging API platform for your application?

Here's what you need to know to make a **smarter** purchasing decision.

Communications APIs, or CPaaS (Communications Platform as a Service) providers as they are known by some, are a cloud-based application layer that allows software developers to quickly and easily integrate calling, texting and other real-time communication functions into applications, using APIs.





This sector, once dominated by just a few players, has grown considerably due to the incredible demand for voice and messaging capabilities in business and consumer applications. A number of large, seasoned communications providers are now stepping up to the plate and offering CPaaS or CPaaS-like services, some as a compliment to their own traditional telecom offerings—and others as pure-play software vendors.

When you're creating your embedded communications strategy or developing business applications that need to go the distance in today's fast-paced technology arena, it's important to select a CPaaS partner that will deliver the right functionality, with the quality your users expect at a cost that's doesn't affect your bottom line.



CPaaS EXPLAINED



CPaaS is the newest trend in the decades-old movement toward cloud-based business processes. Just like cousins who came before, SaaS (software as a service), PaaS (platform as a service), CPaaS removes the need to own hardware—delivering simpler, quicker and more cost-effective access to the calling and texting functionality businesses need to build sticky applications with better user experiences.

Many of the **most successful companies** that have tapped into CPaaS are those well acquainted with using communications as an enabler and differentiator.

These no-stack startups, the likes of Google, Lyft, and Zendesk, are highly scalable, agile and disruptive to well established industries.

Google

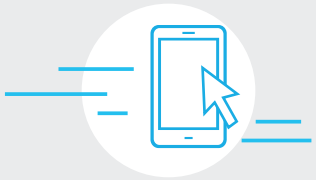
lyft

zendesk

Today virtually everyone has experienced the value that communications APIS can bring to everyday interactions. Below are just a few examples.



Your doctor **texts you appointment reminders** to make sure you'll be there on time



You **click a link from a mobile app** to call a support representative when you experience problems with your cable television.



Your bank **texts you an authentication code** that you enter online to validate your account access



Never before has voice and messaging been so simple to deploy—**and CPaaS is the catalyst behind it all.**

CPaaS is entirely cloud based and software driven—catering to application developers and product owners who need to tap into today's most exciting digital and mobile features without having to build or locate any of the physical network infrastructure. Communications APIs eradicate the need for users to communicate within channel-based silos for instant messaging, web conferencing, text messaging, voice calling and more.



A CPaaS offering can consist of a combination of REST APIs, developer support, sample code snippets, documentation and forums that let any developer incorporate communication-enabled features (voice & messaging) directly into applications. Some companies also offer software development kits (SDKs) and libraries for building applications on different desktop and mobile platforms.

WHAT CAN YOU BUILD WITH A COMMUNICATIONS API?



Notify your users of important updates or appointments via SMS



Click-to-call or message from within your application



Request emergency help quickly, at the right location with 9-1-1 call routing



Translate speech to text for data entry, or quick response via email



Launch group calls and texts



Call analytics and lead tracking functionality



Two-factor authentication via SMS for increased security



Web-based chat within your application



Video chatting or call conferencing

AND MUCH MORE!

BEFORE CPaaS (Timeline: Months or Years)

1. Purchase & install on-premise equipment & infrastructure
2. Hire or enlist devs knowledgeable in telecom to create app interfaces with multiple communication systems
3. Develop, test and launch multiple, single channel apps for calling, texting, video



AFTER CPaaS (Timeline: Hours or Weeks)

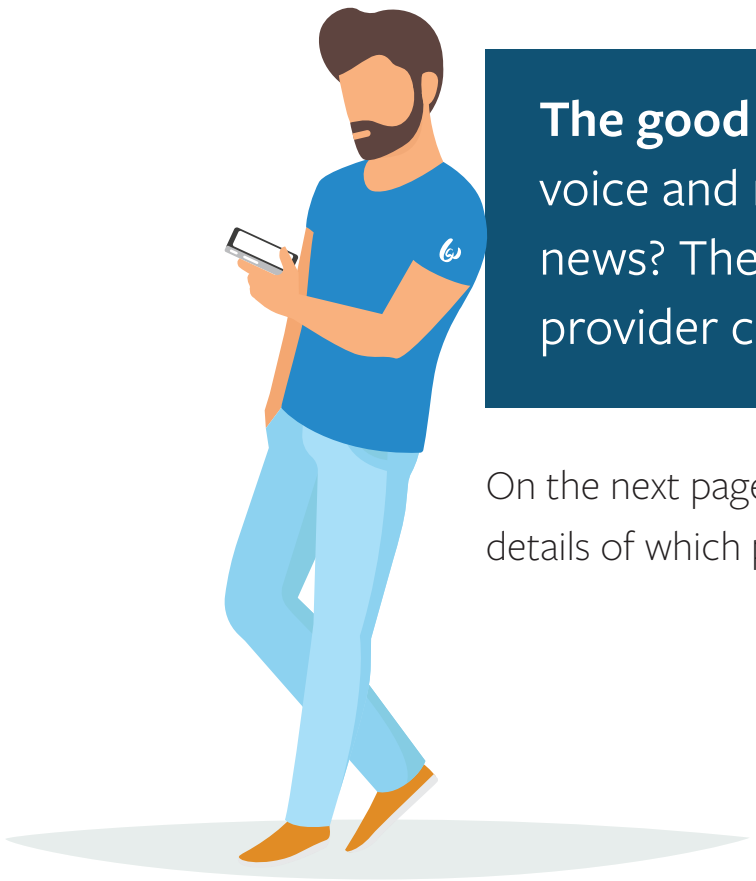
1. Mobile app developers hack out a plan
2. Leverage a CPaaS provider to make API calls to the cloud
3. Roll out an omni-channel app with one simple UI



TYPES OF PROVIDERS & QUESTIONS TO ASK DURING THE PURCHASING CYCLE



In its early days (just a few short years ago), the CPaaS market was dominated by pure-play software companies like Twilio, Nexmo and Tropo that targeted software developers who needed quick and easy access to communications APIs for voice and messaging and who had little to no knowledge of the intricacies of telecom infrastructure. As the market evolved, the needs of many CPaaS customers also evolved - they outgrew some of the "off the shelf" API options - in some cases, they needed a solution that could scale, in others, they needed higher quality, and in others, a better cost structure. As a result, a number of new players emerged to meet the demands of the market.



The good news here: you've got lots of options to consider for voice and messaging, no matter what your use case. The bad news? There's so many options available, that choosing the right provider can prove to be quite the challenge!

On the next page, you'll find some tips to consider when selecting a partner, along with details of which providers are the best fit for various businesses.

	API Providers	API Providers & Network Carriers	Network Carriers (Not CPaaS)
The Players	twilio · Sinch! · plivo	bandwidth · Vonage Business	ONVOY · Level(3) COMMUNICATIONS · AT&T
Good Choice For	• Start-ups • Quick software deployment • Lower network volume • Simple telecom requirements • Scale and quality are less important • High speed, high volume	• Higher quality voice, better message deliverability • Number management tasks like buying and porting numbers from one provider to another • Business-grade solutions • Custom solutions • Cost control • Mass telephony	• Availability of phone numbers • SIP infrastructure or traditional switch infrastructure are available • Speed to market is less important
Intended Buyer	• Software developers, the “one-man-shop” start-up owner	• Product owners, solutions architects	• Telecom professionals (ie - prior telecom experience required!
Challenges	• Ability to scale • Pricing structure • Customization • Limited amount of support available	• Depending on the provider, the feature set may not be as full as API-only providers • Network availability may limit international support, or make it more cost prohibitive	• Bureaucratic • Slow moving • Limited APIs • Limited amount of support available

ALL OF THESE PROVIDERS HAVE A LOT TO OFFER—BUT THEY'RE NOT ALL ALIKE.

It's important to carefully assess your business or application development needs as the first step in your buying cycle. Here are some key questions to ask, as you consider your options:

CALLING AND TEXTING

- **Q** What features do you require? Basic voice and messaging services are a typical standard offering for all of the above providers, but some also offer picture messaging (MMS), video messaging, group messaging, 9-1-1 connectivity, number management APIs for purchasing additional numbers and porting from carrier to carrier, and more.
- **Q** Do you require international coverage/support?
- **Q** Is mobile of particular concern to you? You may also require a mobile software development kit (SDK) package as well.

PHONE NUMBERS

- **Q** Do you simply need quick access to phone numbers for a few thousand users in a particular local area? Or do you need an unlimited nationwide supply?
- **Q** Does your application require users to transfer numbers from other carriers? Ability to handle number porting in bulk should be of particular consideration if so.
- **Q** Do you require features like call forwarding, call recording, call tracking, etc? If so, you may need a special type of number to accommodate these features.

SUPPORT

- **Q** What kind of support structure do you expect? Do you have a support SLA that needs to be considered?
- **Q** Are sample code, online forums and document libraries enough for you to solve problems or do you require on-call support 24/7 or a dedicated account manager?

NETWORK CONTROL

- **Q** Do you need the flexibility of choosing or designing your own call routes to optimize for quality or cost? Some network providers will offer true customization, or pre-designed routes to make it easy to control costs or quality.
- **Q** Do you need quick responses and root cause for any potential issues? Dealing directly with a network carrier will provider quicker, more detailed responses should issues arise.
- **Q** Is quality of concern to you? Working directly with a carrier means more directly connected calls—no hopping around via third-party network vendors— resulting in a higher quality call.

THE BOTTOM LINE

Which CPaaS option is best for your business? Ultimately, the decision is yours. For speed to market, a CPaaS provider with SDKs and a solid library of documentation will get your application up and running quickly. To keep costs low and quality high, consider a provider with network carrier roots.

This best-of-both-worlds approach is at the core of Bandwidth's CPaaS offering—start a conversation with us today.

Call 855.290.8135 or email sales@bandwidth.com.

