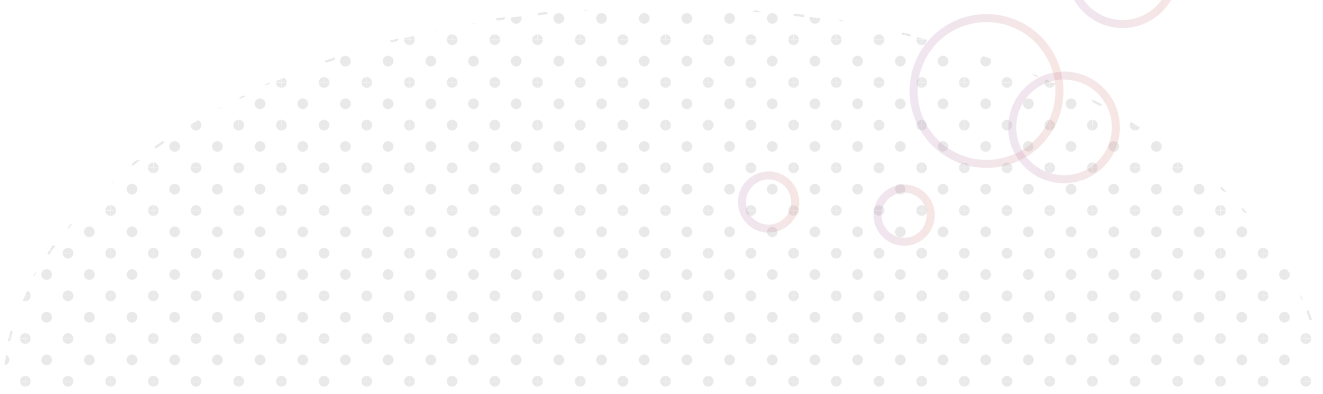


# TURNING DEFENCE INTO OFFENCE WITH CPAAS

How to leverage communications APIs  
and be ahead of the game



## What's Inside

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# Telco Core Businesses Are Under Assault

## Introduction

The world of telecommunication is on a fast-track mode of drastic changes.

Technological advancements such as 5G and Internet of Things (IoT) are proliferating faster and resulting in revenue uplift. In addition, there are ongoing mergers and acquisitions bolstering service portfolios and expanding their footprints. Yet, all these heightened scenarios together are unable to save the telecommunication industry from the paradox of tight profits and low-digit growth.

While data services, driven by the digital economy, will continue to grow, this revenue growth will be largely offset by the continued declines in the traditional telco services because of the competitive digital-native players emerging in the market. In order to counter these new players and strengthen their place in the market, the telcos need to swiftly come up with more innovative solutions to stay relevant.

## Cannibalisation of Communication Services from Digital Native Providers

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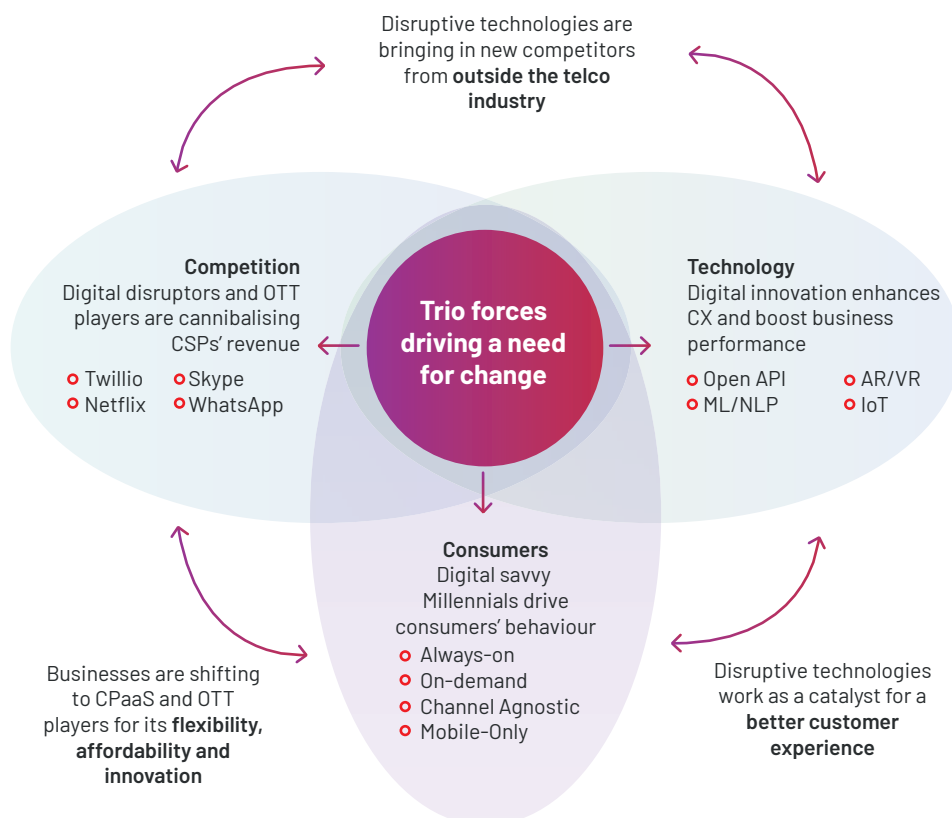
Digital transformation is changing how consumers communicate. The “always-on”, “on-demand” and “mobile-only” expectation from consumers, especially the millennials, have resulted in them moving away from the traditional telco solutions to Over-the-Top (OTT) services.

These OTT digital native players are offering the same core services of voice, messaging, and video calls that used to be the domain of traditional telcos. In particular, OTT players like Skype, Google Hangouts, WhatsApp and WeChat are cannibalising the core offerings with more attractive and innovative communication services.

On the business front, Cloud Communications providers like Twilio, Vonage and Plivo are using public Communications Platform-as-a-Service (CPaaS) offerings as a “beachhead” to become businesses’ primary communications provider. They provide flexible and easy-to-use open communications APIs for companies to easily integrate real-time communications within their applications and workflow for B2B and B2C engagements. As they offer businesses the freedom to choose the communication channels that they need, businesses can seamlessly thread these channels together within the same application for an omnichannel user experience and boost overall business performance.

In addition, since these CPaaS solutions are built on innovative business models, they are available to users at a much lower price and with faster availability than what the traditional telcos are able to offer.

According to Ovum, this will **likely result in the decline of the consumer spending on traditional communication services by 36 percent over the next 10 years**, further pushing telcos and CSPs down the value chain, pilfering core service revenues. Hence, these staple services will soon become a commodity.



# CPaaS is Shaping the Future of Communications

## Understanding CPaaS

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For decades, business communications were dominated by legacy systems and services connected through the Public Switched Telephone Network (PSTN). While these were highly reliable, they were expensive, inflexible and not necessarily customisable. Particularly in this digital economy, businesses need more than just voice communications. They need a seamless access to any channel - video calls, messaging, voice calls, complete collaboration tools, and more - and on any device.

**To achieve enterprise agility and seamless communication across a variety of channels, the Communication-Platform-as-a-Service (CPaaS) model was born.**

This cloud-based approach is powered by Application Programming Interfaces or APIs. By offering communications APIs such as Video API and SMS API, businesses and developers have the flexibility to embed voice and video calling, text messaging and other communications functionality into any software application easily without the need to invest in backend infrastructure.

These flexible API building blocks allow businesses to mix and match communications channels (e.g. a combination of video and messaging services) to a single solution or application, providing businesses with the simplicity, agility, affordability, and extensibility they need.

## Drivers of Success

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Businesses, developers and service providers around the world are moving to CPaaS for the following reasons:

- **Extensible** – CPaaS providers make it easier for businesses to embed real-time communications into mobile apps and websites with easy-to-use APIs
- **Innovative** – Beside the core of voice and messaging, CPaaS provides richer features that traditional telecom offerings lack. In addition, some CPaaS vendors are offering a much broader range of communications APIs such as video and AI.
- **Agile** – Customers can activate Video calls, SIP trunks, DIDs/DDIs, messaging and other services in minutes as compared to days, or even months if they would purchase from telcos and CSPs.
- **Cost-efficient** – It is a cloud-based offering that is based on a pay-as-you-go pricing without any CAPEX. Many long-time customers of CSPs have moved to CPaaS vendors because of the attractive prices and innovative features.
- **Simple** – With the self-service mode, business customers can subscribe to communications services quickly and easily on the web with a credit card.
- **CX Excellence** – It's not about having a PBX or a specific device anymore. Instead, what consumers are looking for is an Omnichannel communication and CPaaS got that advantage.

## Exponential Growth

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According to Mordor Intelligence, the CPaaS market is expected to register a CAGR of

**46.2%** during the forecast period of 2020 to 2025.

On the similar note, IDC predicts CPaaS market will reach

**\$17.2** billion in 2023 as compared to only \$3.3 billion in 2018

### *Some interesting numbers*

Based on Ovum's survey, **49%** of respondents said that their organisations used APIs for voice. SMS accounts to **44%**. But video and chat are not far behind, at **41%** and **37%** of respondents, respectively.

According to Apigee, around **85%** of top-performing companies agree that using APIs is a strategic way to grow their companies.

**70%** of those companies are also investing in new API-based strategies

Frost and Sullivan study found that **67%** of people plan to increase their level of investment in CPaaS, or at least maintain their existing investment.

According to Mordor Intelligence, Asia Pacific is the **fastest** growing CPaaS market



## Use Cases that Drives Exponential Growth of CPaaS

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Numerous industries are benefiting from CPaaS every day with many using them to engage customers and provide contextual experience. Some of the common use cases that drive the growth of CPaaS includes the following:



### Healthcare

Healthcare providers can use video API to easily develop secure video calls between patients and doctors without the need to build the video backend infrastructure. Many healthcare institutions have also used CPaaS to notify patients of their medical schedules and upcoming doctor appointments via SMS or in-app notifications.



### Banking

Financial institutions can integrate SMS API in their mobile application for two-factor authentication, which provides an additional layer of security to customers. In addition, with KYC moving to digital, many banks have harnessed CPaaS to embed Video and AI within the onboarding process.



### Education

Educational institutions are transforming from traditional to ed-tech institutions with CPaaS. Other than using it to build webinar, institutions can embed CPaaS within the LMS and eLearning platform for on-demand learning and remote engagement between teachers and students.



### Transportation

Ride sharing apps, such as Uber, provide number masking calls between driver and passenger, offering sheer convenience to the riders along with user privacy. CPaaS can also be used to build SMS notifications of Estimated Time of Arrival (ETA).





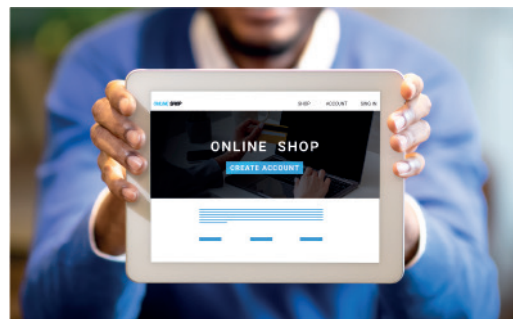
### Hospitality

Airline and hotels can automatically alert customers to gate changes or room swaps. Home owners and hotels can list their available rooms on the app and allow voice and video calling without the need for potential customers to disclose their personal numbers.



### Retail

Retailers can connect buyers and sellers in real-time without sharing their personal contact details. Buyers can chat with sellers or even escalate to a video call to view the product live, all within the ecommerce platform. Once the transaction is done, sellers can notify buyers on the delivery information via SMS too.



# Where Should Telco Play?

## Scope to Resurge

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The rapid growth of the CPaaS / OTT sector is quickly changing the dynamics of the telecommunications industry. Many observers are predicting that the telcos and CSPs will be outplayed by digital native providers who are able to deliver innovative services that are highly scalable and flexible.

**However, what the observers have overlooked is the fact that the CPaaS technology is built upon an infrastructure which is owned by the telcos.**

While the telcos may not be nimble, they have a number of advantages from their hard-won assets accumulated over the years. Some of those include:

- **Infrastructure** – Telcos own part of the underlying infrastructure that enables CPaaS players to deliver communication offerings – mainly the voice, SIP trunking and SMS technology.
- **Data Centres:** Incumbent and large telcos have numerous data centres and Point-of-presence located globally, allowing for better security and lower latency.

- **Regulations** - There are many government and industry implemented regulations designed over the years to protect both the consumers and telcos themselves. This regulation has enabled telcos to establish market dominance. However, CPaaS players, being the relative newcomer in the telecommunications world, are often unaware of these regulations or unsure of how to navigate within these protocols.
- **Trusted Customer Base:** Telcos are still perceived as providers with quality network that comes with Quality of Service (QoS). They have a large base of consumers and enterprise customers who are still more loyal to telcos and favour them over the digital native providers.



## Fight back with APIs and CPaaS

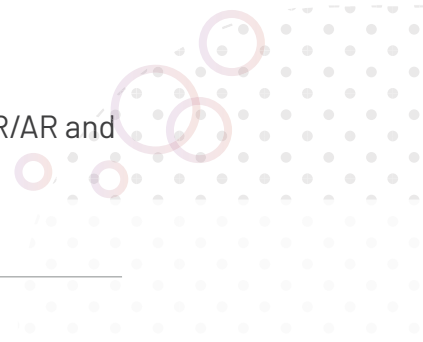
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The evolution of CPaaS has benefited businesses greatly and telcos and CSPs should use it to their own advantage too. Although conventionally CPaaS is viewed as competition to telcos and CSPs, it need not necessarily be so.

Innovative carriers can take the lead in changing their business models by looking on CPaaS to create new revenue streams, protect their core assets, and improve customer experience and increase their stickiness. To win in the game, they must play to their strength by harnessing the power of their hard-won assets (such as their infrastructure and regulatory know-how) and moving to the APIs and CPaaS space to meet the expectation of business customers and ultimately, the end users that businesses are serving. If done well, telcos could turn defence to offence by offering carrier-grade, feature-rich communication offerings that bring more value to the customers.

*To remain competitive, telcos and CSPs must:*

- Provide APIs that empower businesses and software developers to easily add real-time communications such as voice, video, and SMS.
- Embrace the concept of immersive communications experiences—i.e. real-time communications capabilities embedded directly into the end-customer applications and internal workflows
- Allow businesses to easily order and deploy communication services such as SIP trunks, Voice and more, directly on the web
- Offer APIs on top of their telco infrastructure for more secure and reliable services
- Hedge their bets on disruptive technologies such as IoT, VR/AR and AI, bundled with CPaaS for differentiations.



# Manifesting the Big Win

## Compete vs Partnership

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Telcos and CSPs can follow these strategies to work their way into a competitive share of the CPaaS market.

**Direct Competition** – While this approach is not for everyone, deep-pocketed telcos have the resources to build products and services that match their competitors. However, that will take time and resources and telcos might miss the opportunity to be ahead of the game.

**Acquisition** – Alternatively, deep-pocketed telcos could acquire CPaaS players as the means to quickly leverage expertise and tap onto their existing resources and service offerings. Even so, acquisition has its disadvantage since there is high risk associated.

**Direct Partnership** – One quick way is for carriers to move into this market and garner a share is to partner and collaborate with CPaaS players. These partnerships will allow telcos to share the risk while rapidly launching CPaaS innovations for their customers.

**By partnering with the right CPaaS vendor, telcos could earn revenue pull-through from their existing infrastructure while gaining new revenue stream from CPaaS offerings.**

## Creating Telecom Solutions with CPaaS

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When telcos partner with the right CPaaS vendor, they can together create synergy that would result in developing new service portfolio, generating revenue stream and building new business relations. Here are some ways to create telecom solutions with CPaaS partnership.

### Host own CPaaS Platform

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Telcos can grow and develop new revenue streams by venturing into thriving market segments and selling to software developers and System Integrators. Here are some ways:



**Selling Communications APIs** – Telcos can create new revenue stream by offering CPaaS to developers or their existing business customers. When integrated with their infrastructure and by offering QoS, telcos could provide carrier-grade APIs.

Some key CPaaS players have moved beyond offering voice and messaging capabilities to include video calls and have their communications capabilities complemented with Machine Learning, Emotion AI and VR/AR. Telcos could partner with such vendors to offer differentiated communications APIs and be ahead of the game. Those telcos that offer comprehensive suite of APIs will also enable businesses with omnichannel customer engagement capabilities.

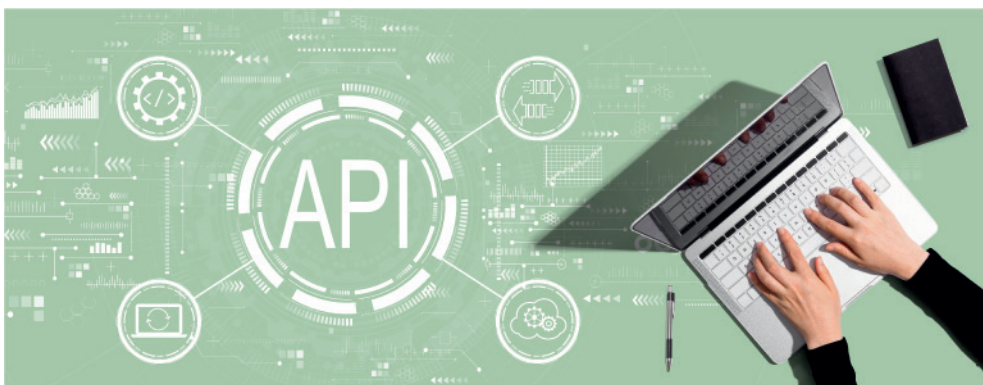
### Host own CPaaS Platform



**Creating API Marketplace-** Telcos can conveniently deliver real-time communication capabilities through an API store or marketplace. By offering video, voice and messaging services APIs, businesses and developers can easily access carrier-grade, low-code, real-time communication capabilities. A few leading carriers such as AT&T and KPN have already launched an API marketplace



**Offering Professional and consultancy Services -** Many telcos have a System Integrator arm that offers professional services (PS) but might lack the capabilities in WebRTC, a technology that supports Video APIs. While the modern communications APIs are low-code and easy to implement, at times there will be complex projects where PS work is required. By partnering with CPaaS, telcos will be equipped to deliver the right expertise and necessary technical support





### Expand existing portfolios

Beyond just selling CPaaS, telcos and CSPs can leverage on CPaaS to add new communication channels and expand their existing suite of communication and SaaS offerings. Here's how:



**Enhance UCaaS offerings** - With CPaaS, telcos and CSPs can enhance their existing UC solutions with more features. By partnering with the right CPaaS player and with the right APIs, CSPs can add in new channels such as Video within their UCaaS offerings and/or complemented with Machine Learning, emotion analysis and VR/AR to differentiate their features. CPaaS can also be used to replace outdated PBX solutions that is silo and inflexible.



**Offer vertical specific SaaS solutions** - Powered by CPaaS and running on their network, telcos can venture into creating their own vertical or functional software applications such as video-enabled recruitment software or omnichannel customer service.




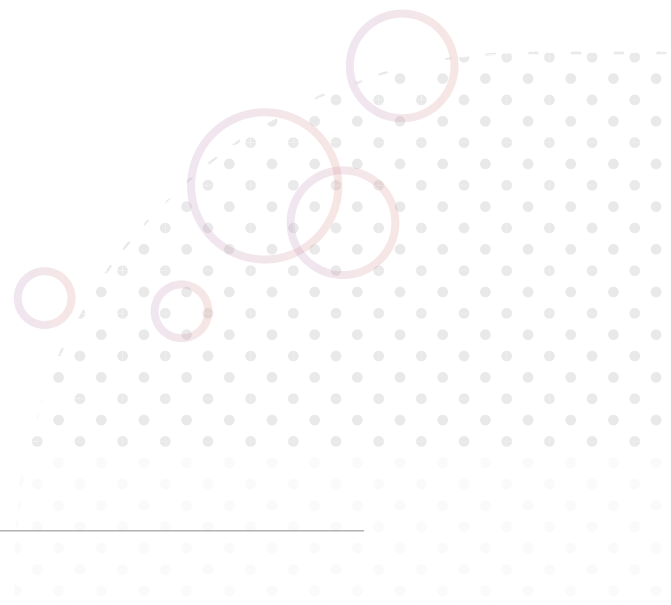
## Why Telcos and CSPs will Win the CPaaS Game

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Telcos that embark on offering Carrier-grade APIs have distinct advantages as compared to public CPaaS/OTT vendors. Here are some clear differentiations that telco Sales team should focus on when selling to businesses:

CSPs	Public CPaaS/OTT
<p><b><u>Delivery Rate</u></b></p> <p>Telcos have higher SMS and messaging delivery rates as they control the traffic-blocking filters that make decisions as to which messages to pass and which are to be blocked.</p>	<p>Public CPaaS vendors do not have a control over network filters or traffic blocking and therefore, delivery rates may vary.</p>
<p><b><u>Quality of Service (QoS)</u></b></p> <p>As telcos own the network, they have the capabilities to offer SLA and QoS and fetch a premium.</p>	<p>CPaaS vendors cannot provide end-to-end quality guarantees.</p>
<p><b><u>Competitive Pricing</u></b></p> <p>CSPs own the mobile network, phone number and voice infrastructure which forms part of the communication API offering. These infrastructures are often at a sunken cost, giving CSPs a better leeway in offering a more competitive pricing.</p>	<p>By purchasing the connectivity from the CSP, CPaaS vendors will have to mark up their rates to maximise profits.</p>

CSPs	Public CPaaS/OTT
<p><b><u>Customer Support</u></b></p> <p>Strong customer support build across the years</p>	<p>Limited customer service support with most being self-service</p>
<p><b><u>Customer Base</u></b></p> <p>Larger customer base for cross and up selling opportunities</p>	<p>Greenfield customers with little customer relationship</p>

A black and white photograph of a woman with long dark hair, seen from the side, wearing a headset with a microphone. She is looking at a laptop screen in an office setting.

# Who to Partner With?

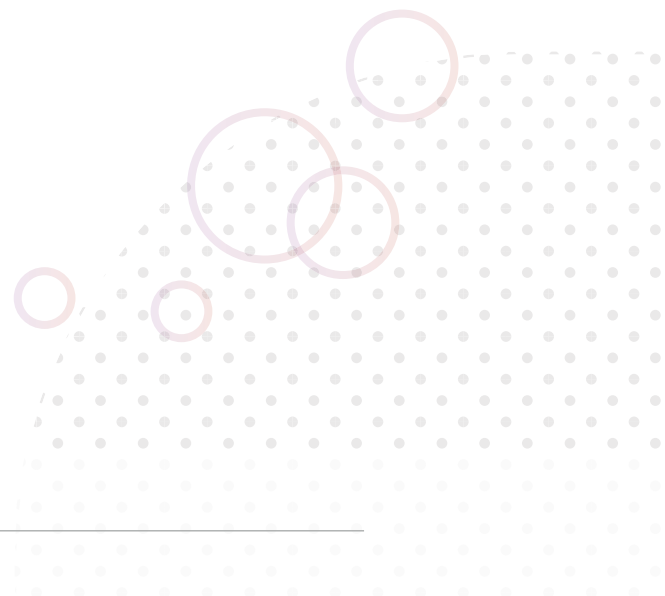
## Choosing the Right CPaaS Provider

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It is important to know that not all CPaaS providers are alike. Partnering with the right provider that has the platform to support CSPs today and tomorrow is paramount to the business success. Below are some key attributes that a CSP should look out for:

- **Multi-cloud Deployment** – By definition, CPaaS is delivered “as a service”, which means a cloud-based deployment. This implies that the communication functionalities will be hosted on the CPaaS provider’s public cloud. Unlike software developers who use CPaaS because it comes with all the backend infrastructure and carrier network, telcos and CSPs will have little to no advantage of partnering with a CPaaS player that offers the same benefit which most likely is less superior to their own carrier network. Telcos and CSPs should partner with a CPaaS provider that allows them to host on their own network, giving them greater control and the ability to offer Quality of Service or QoS. Furthermore, by hosting Communications APIs on CSPs’ own network allows them to monetise their assets and gain a higher pull-through revenue.

- **Full-stack CPaaS** – There is a lot of buzz with the term CPaaS and many players, knowing the publicity it can bring, have labelled themselves as a CPaaS provider. But not all CPaaS players are equal and many have limited offerings, not beyond messaging and voice APIs. Telcos and CSPs should partner with a CPaaS provider that offers a comprehensive suite of APIs – Voice, SMS, Video and Messaging – allowing them to build a true omnichannel experience.
- **White-label Platform** – Telcos should only partner with a white-label CPaaS vendor that offers the flexibility and customisation they need. A white-label platform goes beyond just branding. The platform should have the flexibility to allow telcos and CSPs to customise billing, UI, documentation as well as the ability to integrate seamlessly with other software.
- **Advanced and Innovative Features** – CPaaS has been in the market for more than a decade and it has gone beyond pure communications APIs to include NLP, AI, affective computing, augmented reality (AR) and virtual reality (VR) capabilities. These innovative features deliver conversational experiences, contextual information, and support for automated customer journeys beyond enabling communications. Telcos should partner with CPaaS players that maintain a continuous and rapid innovation, and release cycles of new features and functionality that brings additional values to enterprises.



# The Bottom Line

Telcos and CSPs are facing fierce competition from digital-native players that make it easy for businesses to embed communication functionalities to their customer-facing applications. By partnering with EnableX white-label CPaaS, telcos can fend off competitive threats, restore customer loyalty and even drive new revenue.

## Why EnableX?

EnableX next-generation CPaaS comes with a comprehensive suite of communications APIs and all the necessary toolkits for service providers to enable rapid service creation and build innovative and engaging communication experience. Its white-label platform comes with:

- Flexibility to host communications APIs on telcos' data centres or cloud environment for full management control and added security.
- Full-stack of communications APIs for businesses to develop engaging omnichannel conversations.
- Innovative features such as emotion and face recognition AI, text-to-speech, among others for richer communication experience.
- Complete customisation, giving telcos the freedom to customise workflow, billing, documentation, pricing and more.

## Next Step

To learn more about how EnableX can help you expand your portfolio, regain customer loyalty, and grow revenues, visit us at [www.EnableX.io](http://www.EnableX.io)



EnableX is a cloud-based communications platform for embedding video, voice, SMS and chat messaging into any apps and sites. Built on a carrier-grade platform, it offers developers with full stack of communications APIs and all the necessary toolkits to develop innovative and engaging communication experience.

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