Competitive Landscape: Communications Platform as a Service

While traditional CPaaS offerings like SMS, A2P and voice dominate spending, the market now requires support for richer capabilities. To succeed in this complex landscape, vendors must deliver an enhanced set of digital channels, video and security, with easy-to-use tools to configure them.

Overview

Key Findings

- The communications platform as a service (CPaaS) market now demands a much richer complement of customer connections, including social media channels like WhatsApp, WeChat, Google RCS and RBM, Apple Business Chat, and in-app voice and video. With these added to the ecosystem, it is increasingly difficult for CPaaS providers to deliver a complete solution organically.

- CPaaS customers increasingly require adjacent services to implement advanced use cases, such as artificial intelligence (AI)/chatbots, payments and security, including two-factor authentication (2FA) and more advanced multifactor authentication (MFA), which includes biometrics.

- CPaaS providers are also beginning to differentiate by stretching their offerings into related markets such as Internet of Things (IoT), customer data platforms (CDPs) and contact center.

- Customers demand CPaaS access for business analysts without developer skills. This is enabled with no-code visual builders that support workflow design and implementation.

Recommendations

As part of their communications product planning and strategy efforts, technology and service providers delivering CPaaS offerings must:

- Decide which portions of the CPaaS stack they will build themselves, which they will obtain via acquisition, and which they will integrate via partnerships by evaluating existing market positioning and dynamics, their and others' core competencies, and their ability to secure capital.

- Construct a strategy for adjacent services by building, partnering or buying today's commonly provided adjacent services, and by exploring new potential adjacent services with customers to ascertain demand.

- Decide whether to stretch into markets related to CPaaS by evaluating those markets' interplay with their own offerings, APIs and existing integrations, and by evaluating possible strategies to enter them.

- Provide full "digital citizen" enablement by improving existing low-code builders to allow for full implementation of production workflows without coding.

Strategic Planning Assumption

By 2025, 95% of global enterprises will leverage API-enabled CPaaS offerings as a strategic IT skill set to enhance their digital competitiveness, up from 20% in 2020.

Analysis

CPaaS providers offer application and software engineering leaders a cloud-based middleware from which they can integrate communications software into business processes in a programmable manner. A CPaaS platform provides developers with APIs, software development kits (SDKs), integrated development environments (IDEs) and documentation to facilitate simplified access to an array of tools (spanning voice, SMS, messaging and video) to build communications solutions to:
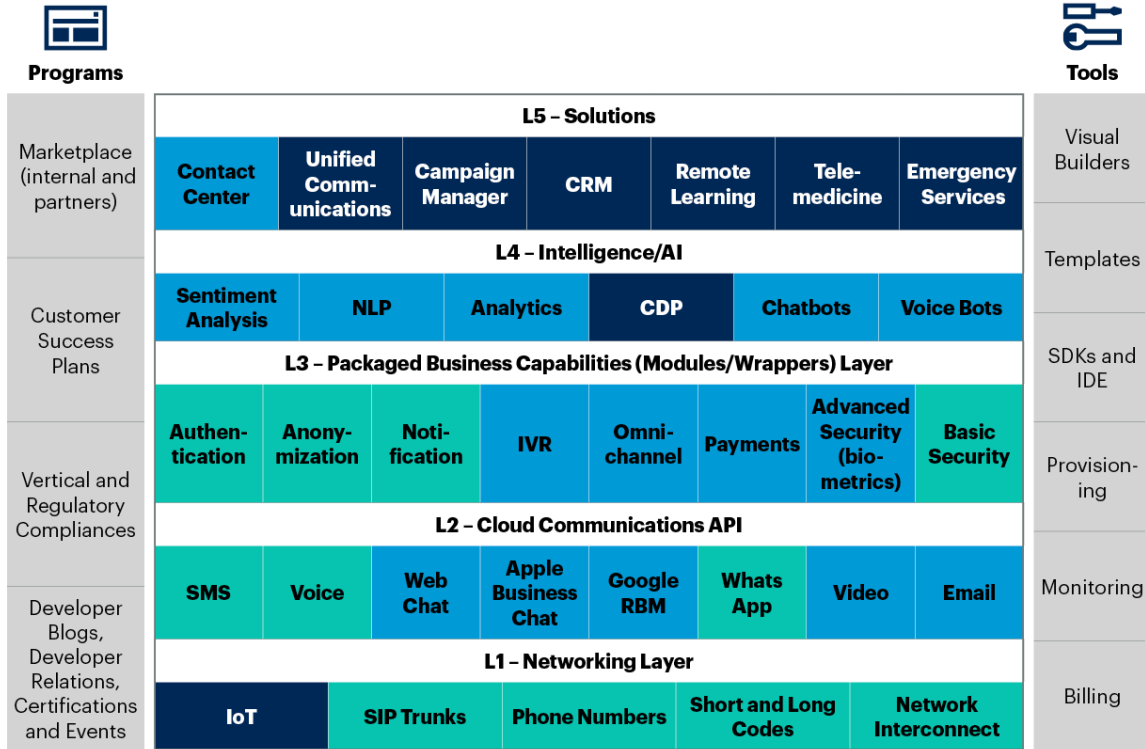
- Better run their business

- Enhance customer experience

- Improve speed to market for new products and services

The major components of CPaaS platforms are illustrated in Figure 1.

Figure 1. Five-Layer CPaaS Architecture

Five-Layer CPaaS Architecture

Source: Gartner
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Gartner.

The CPaaS market is set to grow briskly, from a size of roughly $8.8 billion in 2021 to $23.0 billion in 2025, as organizations evolve from using off-the-shelf products and integrations to crafting fully customized solutions for their business needs. While the roots of CPaaS lie in voice and messaging, new capabilities such as advanced messaging, video, IoT, AI/intelligent capabilities and integrated contact center functionality will drive future growth.

Meanwhile, paths to market are evolving. The market previously transitioned from being purely developer-driven to add a co-creation model, where platforms are augmented with new partnerships and capabilities to deliver full solutions to customers. Today, market players are beginning to straddle the two, with developer-driven firms adding partnerships and systems integrator (SI) partners to deliver full solutions, and co-creation-driven firms beginning to court developers and provide direct access to APIs and SDKs.

Competitive Situation and Trends

Major vendors in the CPaaS market are shown in Figure 2, subdivided by annual revenue and by major operating model.

Figure 2. Major Vendors in CPaaS

Major Vendors in CPaaS
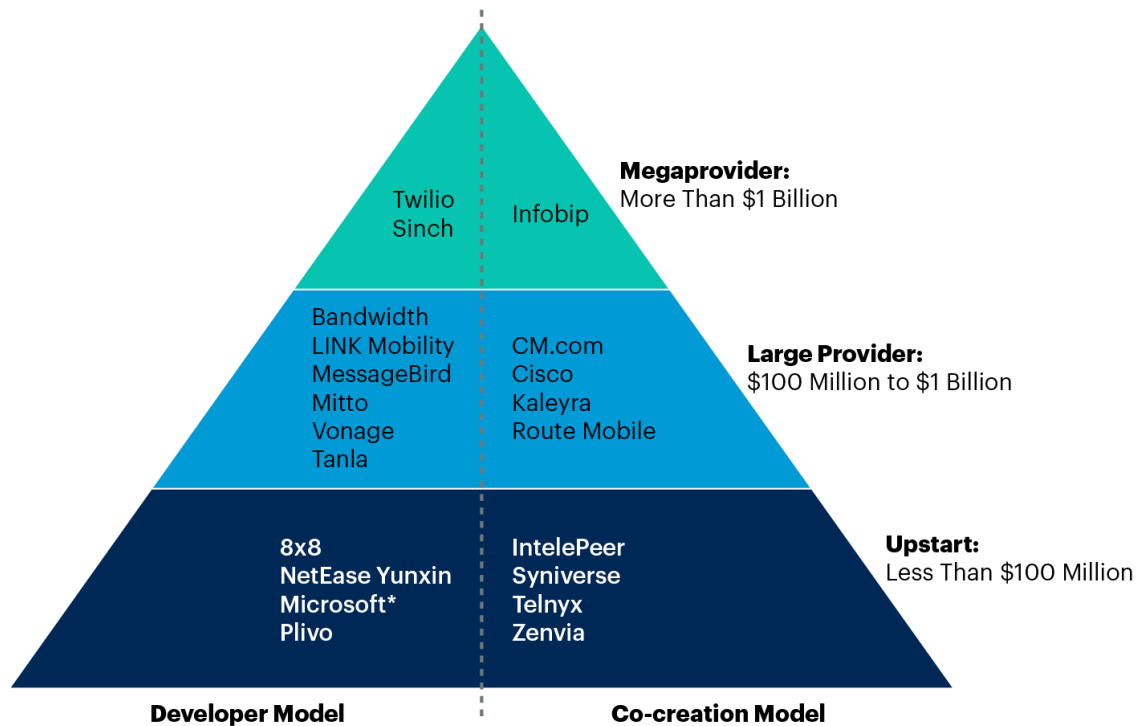
Source: Gartner (November 2021)
* Gartner estimate based on launch in April 2021

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Mergers and Partnerships

The CPaaS space has been rife with mergers and acquisitions. These have been embarked on for a variety of reasons, including but not limited to:

- Traditional communications service providers (CSPs) entering the CPaaS space. While the CPaaS space is still developing rapidly, the leading players have enough capability that the time has passed for a telco to attempt to develop its own offering from scratch, as described in 4 Key Pillars to Telco Success in the CPaaS Market. Rather, several traditional communications players have chosen to purchase an existing market participant (often a less prominent one). This allows them to take that participant's existing capabilities and enhance the marketability of those capabilities with the strength of their brand name, while integrating the participant's tech stack with their own and often enhancing geographic coverage. With the acquirer's market power in hand, the acquired company can generally negotiate better rates with carriers around the world and enhance its bottom line. Examples include Vonage's acquisition and integration of Nexmo, Mavenir purchasing Telestax, and in the CSP technology space, Cisco's second attempt to enter the CPaaS market in the form of the IMImobile acquisition.

- Communication channel expansion. Many acquisitions have been driven by the need for access to a new communication modality, particularly email and

video. These transactions serve a dual purpose, with players acquiring not just the technical capability to deliver that modality to existing customers, but also a customer base for that modality who may need to expand into more traditional CPaaS communication channels. Examples include:

- o MessageBird's purchase of SparkPost for email

- o Vonage's acquisition of TokBox for video

- o 8x8's buying Jitsi for video

- o Sinch's purchase of Pathwire for email

- Higher-function expansion. CPaaS players have also made acquisitions to further enhance their offerings at higher levels of the technology stack.

    - o Often, this is an AI-related acquisition, as CPaaS vendors seek to enhance intelligence of their bot offerings, their analytics or other functions. Examples include:

        - ▪ Sinch's purchase of Chatlayer.ai

        - ▪ Vonage's purchase of Over.ai.

    - o Sometimes it involves adding functionality to target a new vertical, such as:

        - ▪ Twilio's purchase of Electric Imp to bolster its extension of CPaaS into IoT

    - o Still others involve enhancement of customer engagement offerings, grafting intelligence around processing and mining insights from customer data to their existing array of communication channels, such as:

        - ▪ Twilio's acquisition and integration of Segment

        - ▪ Sinch's acquisition of Vehicle and rebranding as Sinch Engage

- Geographic expansion. Several acquisitions have been driven by the acquisition of customers in new regions. This allows a global CPaaS provider to quickly gain a foothold in a new market. Examples include:

    - o Sinch acquiring Wavy to enter the Latin American market

    - o Kaleyra's purchase of mGage to increase presence in North America

On occasion, the same needs have been fulfilled via partnership rather than acquisition. Prominent examples include:

- Twilio's partnership with Syniverse to deepen its carrier relationships (which included a significant financial investment and a board seat but not an acquisition)

- Vonage's partnership with Sendinblue, which added email to its CPaaS portfolio

These partnerships can allow CPaaS vendors to add functionality and reach without massive capital commitment, and without taking on the risk of the added entity in its entirety. However, they also carry risk, as building dependence on a partner can lead to reduced bargaining power when the agreement is renewed, or a painful scramble if the partner does not choose to renew.
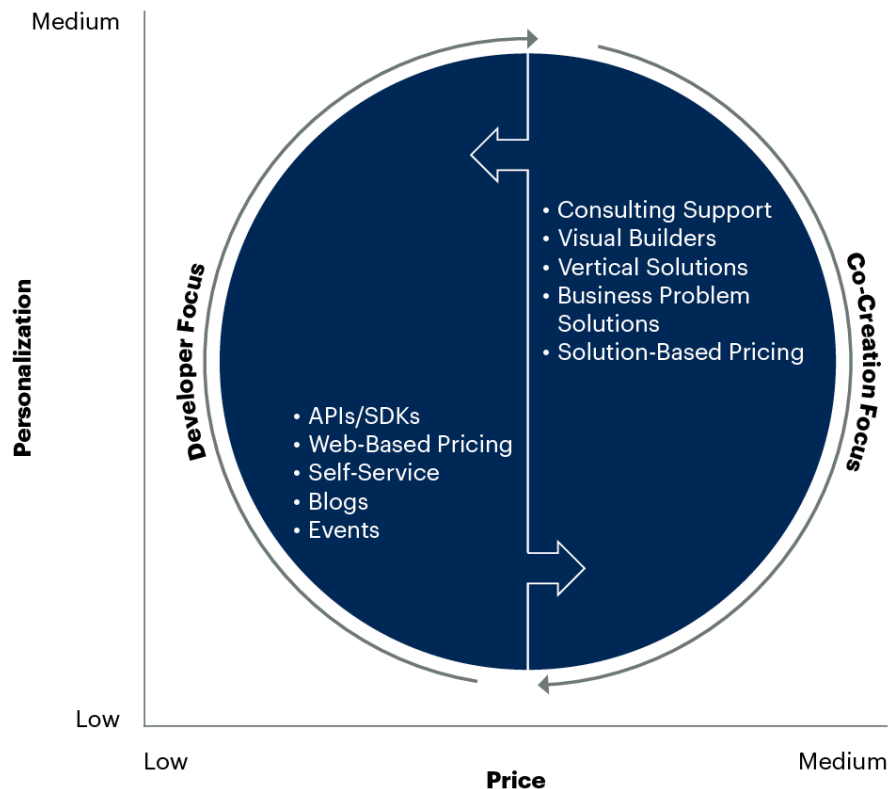
Convergence Between Developer- and Co-creation-Driven Models

Early CPaaS players (for example, Twilio) embraced a developer-centric model, focusing on delivering APIs and SDKs to enable customers to build their own integrations of communications into their business processes. This befitted their birth out of the world of SMS aggregators, who delivered value by solving the thorny problem of integrating wireless carriers to each other and to global enterprises, allowing them to send text messages to a variety of markets without worrying about network details. This model delivers higher margins for vendors, who can scale very rapidly and cheaply to high volumes and focus their R&D on adding new services that scale infinitely. However, customers increasingly are seeking vendors who can partner and co-innovate with them to build a full solution.

This has driven the rise of the "co-creator" model in CPaaS. In this model, vendors such as Infobip, Kaleyra and Route Mobile center the entire customer engagement, from marketing to sales to execution, around working together with the customer to discover solution requirements and execute on them. This distinction is illustrated in Figure 3. The co-creator model requires more upfront and active engagement with the customer and therefore reduces margins in the short term. However, the model also increases long-term stickiness for the vendor as it builds a lasting relationship with the customer and retains knowledge of implementation details, making it more costly to switch.

Figure 3. Developer and Co-Creation Vendor Focus

Developer and Co-Creation Vendor Focus

Developer Focus:
- APIs/SDKs
- Web-Based Pricing
- Self-Service
- Blogs
- Events

Co-Creation Focus:
- Consulting Support
- Visual Builders
- Vertical Solutions
- Business Problem Solutions
- Solution-Based Pricing

Axes: Personalization (Low to Medium), Price (Low to Medium)

Source: Gartner
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Gartner

Several capabilities are necessary for a CPaaS vendor to succeed in a full co-creation model. From an operational perspective, consulting and development support are necessary to deliver complete solutions to the customer. From a technical perspective, visual builders with an easy-to-comprehend user interface (UI) are an important part of the equation. These extend the ability to modify and add to the working system to nondevelopers. The last piece of the puzzle is a library of solutions targeting both common business problems and desired verticals. These can be templated from past engagements, with customer-specific aspects made generic or configurable. In this way, co-creators can build their future roadmap piece by piece from their service engagements.

Now that the co-creator model has found market success, many CPaaS providers are expanding their model as shown in Figure 3. Those CPaaS vendors with strong developer self-service and transparent pricing, such as Twilio and Sinch, have expanded their customer success teams and added consulting partners, visual builders and consulting support. Meanwhile, many co-creators have increased their developer outreach, with a prime example being Infobip's acquisition of the Shift conference to jump-start this effort in Europe.

Regardless of model, many providers have now developed an ecosystem of partnerships around their platforms:

- Some of these are data integrations, like an interface to ingest CPaaS data into a customer's CRM system.

- Others involve bringing outside functionality into the CPaaS platform.

  o One example might be sentiment analysis for voice or messaging conversations.

  o Another example is integration to third-party payment providers to allow payment taking to be integrated into the customer journey.

  o For those providers that are still developer-centric, one additional component is an array of consulting and development services, giving them a path to market for those customers who truly require a custom solution to be built by a third party.

Advanced Messaging, Video and Omnichannel

SMS remains the lingua franca of CPaaS, owing to its long history, its ubiquity and its availability even in poor-signal conditions. However, as richer forms of mobile messaging have emerged, most CPaaS vendors have added some number of these to their portfolio. WhatsApp has reached enough of a critical mass of CPaaS support to be considered a foundational channel, but many others are in various stages of market adoption, including Google RCS and RBM, Apple Business Chat, Facebook Messenger, WeChat, and Telegram. These allow for richer embedded media with functions such as menus, notifications, polling and payment taking. Several vendors have also added their own native rich messaging functionality, expressly designed for customers to embed into websites and mobile applications.

In a related move, several CPaaS players have extended their offerings to include video. This might encompass video integrated into advanced messaging, like WhatsApp, but typically involves WebRTC-based video that customers can integrate into websites and mobile applications. These platforms provide a video channel for traditional CPaaS applications like customer support and outbound marketing. In addition, these platforms enable new applications centered around video to jump-start their development and focus on user cases and customer needs instead of building a video delivery network. Both livestreaming apps like Twitch and delayed-streaming apps like TikTok leverage CPaaS platforms such as Agora or NetEase's Yunxin in this way, as have companies in the gaming community. Zoom has also made a move in this direction with the release of its Video SDK.

Managing these new channels in combination with more traditional channels, such as voice, SMS and email, requires additional functionality. Omnichannel views allow for all communication with a particular consumer, whatever their medium, to be ingested as a single timeline, allowing both superior integration with CRM systems and for human agents to have full context when their involvement is required.

Bots and Orchestration

Historically, CPaaS platforms have left both the interpretation and crafting of individual messages to the customer. As such, both interactive voice responses (IVRs) and SMS conversations were rote affairs, with stock phrasing that the end user would have to adhere to strictly or be misunderstood. It is no wonder that far more calls than desired would have to be handled by human operators, who would

then likely need to have important information repeated to them. This resulted in both added cost for the organization and wasted time for both parties.

Many CPaaS operators now offer more intelligent tools for scripting these conversations with AI to help interpret the user's phrasing and respond appropriately. Some, like Twilio and Infobip, have crafted their own. They and others also allow integrations with Amazon Lex, Google Cloud (Dialogflow), Microsoft Azure Bot Service and the like through their marketplaces. These allow business process owners to focus on the gist of conversations, leaving exact interpretation of language to the platform. It also provides developers the opportunity to script an interaction once and reuse across the many messaging channels provided in the previous section. Advanced implementations, like MessageBird's omnichannel bots, can also leverage the same script for voice interactions, allowing for differences as needed between spoken and written communication, and bringing further value to customers.

Several providers, such as Syniverse, have extended this notion further with orchestration features that include plug-and-play connectors to other business applications such as CRM, ERP and marketing automation. This allows this AI-based scripting to be extended to encompass their APIs as well, allowing for whole workflows to be intelligently automated. In combination with ecosystems of partner integrations, and visual builders that allow all this to be constructed with little or no coding, CPaaS leaders are pushing the automation of business communications to its limit. This frees up digital citizens to focus on solving thorny customer problems instead of slogging through implementing solutions to simple ones.

Market Overlap Between CPaaS and CCaaS

CPaaS was born out of the need for marketing communications over SMS, whereas the contact center as a service (CCaaS) market emerged from replacing traditional phone-based customer service and support and transitioning it to the cloud. As the two markets have evolved, they have begun to overlap but, critically, not to merge. Bot-driven conversations conducted over CPaaS often must migrate to a conversation with a human being. It is unsurprising that major players such as Twilio have added contact center capabilities that contain agent management and analytics, advanced routing rules, and omnichannel views of previous communications, while also leveraging existing integrations such as with CRM systems.

Meanwhile, CCaaS providers such as NICE (CXone) and Genesys are adding not just SMS, but also advanced messaging and social media channels. In this way, they can offer the kind of advanced customer journey design and analytics, AI-based chatbots, and omnichannel agent interface that are often found in CPaaS platforms. This will allow them to compete for some of the same customers as CPaaS vendors, or perhaps in the future to formally become CPaaS providers themselves.

Finally, the current apotheosis of this trend is the offering from Vonage and its three-way convergence between unified communications as a service (UCaaS), CCaaS and CPaaS, which is discussed in more detail in its vendor profile below.

Competitive Profiles

This section provides a short profile of several CPaaS vendors, listed alphabetically. They were selected based on a combination of their prominence and the unique features of their offering. A great many CPaaS providers could not be included here, and their absence should not be taken as a reflection on the quality or breadth of their offering.

CM.com

Product or Portfolio Overview

Dutch CPaaS provider CM.com was founded in 1999 as an SMS marketing platform. Its channel support includes voice, email and OTT, with office expansions into the U.S., Asia/Pacific and Latin America. CM.com combines rich conversations with payments, and integrates with e-commerce plug-ins and point-of-sale (POS) terminals. As a co-creator, CM.com engages directly with customers to help them craft complete solutions to their business process challenges.

How CM.com Competes

- In 2015, CM.com took the unique step of becoming a licensed payment service provider in Europe. This could allow the vendor to undercut competitors' pricing on this payment taking service, if its volume becomes sufficient.

- CM.com's acquisition of ROBIN allows it to extend into CCaaS for small and midsize organizations, with skill-based routing, automated tagging, live chat and co-browsing being added to the portfolio.

- CM.com has recently added voice support to its Conversational AI Cloud, allowing for bot design and scripting to be unified between voice channels and the various forms of messaging it supports.

Infobip

Product or Portfolio Overview

Founded in 2006 in Croatia (but officially headquartered in London), Infobip delivers a robust offering of communication channels and solutions. It goes beyond the CPaaS foundations of voice SMS, and WhatsApp to offer a broad array of over-the-top (OTT) messaging apps as well. Infobip was one of the earliest CPaaS vendors to embrace a co-creation model, augmenting its platform with as-a-service products and professional services to deliver full solutions.

How Infobip Competes

- Infobip operates a private communications infrastructure, including a telecom backbone, across 41 data centers, leaving it neither at the mercy of cloud providers nor carriers when transporting and delivering messages.

- With direct connections to more than 650 telcos, Infobip offers a breadth of CPaaS services across the globe, making it a strong choice for large multinational enterprises that operate in a truly worldwide fashion.

- Infobip's co-creation model, working hand in hand with customers with added services, allows the vendor to deliver entire solutions to the customer and thereby win business from the top down. This is particularly valuable in markets new to CPaaS or where developer resources are limited. Infobip can also use these service engagements to inform its product roadmap.

MessageBird

Product or Portfolio Overview

Founded in 2011, Amsterdam-based MessageBird acts as a licensed carrier that has direct connections to more than 250 mobile operators. While its historical strengths are in voice and SMS, the vendor has recently added support for a slew of rich OTT messaging apps. MessageBird has also added email support via the SparkPost acquisition and both video support and a customer engagement platform via its 24sessions acquisition.

How MessageBird Competes

- MessageBird's Conversations API allows for unified scripting of bots for both IVR and messaging interactions.

- Flow Builder, the vendor's no-/low-code visual builder, allows noncoders to design customer journeys with minimal need for expensive development resources.

- MessageBird's acquisition of Hull allows the vendor to deliver a full-fledged CDP, allowing for personalization that few in the industry can match as part of their native offering.

Microsoft

Product or Portfolio Overview

Long-standing digital dragon Microsoft launched its CPaaS solution in 2021 by API-enabling the same infrastructure it uses to deliver Microsoft Teams voice, video, telephony and chat via Azure Communication Services. This offering marries traditional voice and SMS support with web-based chat, voice and video. It also offers tight integration with Teams for agents and support for a UI template library built on its Fluent Design System.

How Microsoft Competes

- By API-enabling its existing Teams infrastructure, Microsoft both sped its path to market and leveraged Teams' proven track record for availability and latency to give the vendor's CPaaS offering instant global credibility.

- Being a globally strong cloud service provider with Microsoft Azure means the advantage of both lower cloud costs driven by volume and the lack of a markup on cloud expenses. This should lead to a competitively priced offering compared to other CPaaS providers.

- Custom app integration with Microsoft Teams meetings allows use of Azure Communication Services to further cement Teams as a "single pane of glass" for agents within the enterprise.

- Azure and the broader Microsoft ecosystem of offerings are designed to work together. Building applications with a single vendor, like Microsoft, can help minimize the complexity of integrations and enable reliable and scalable capabilities for optimal connected user experiences.

Sinch

Product or Portfolio Overview

Stockholm-based Sinch was founded in 2008. It boasts support for a breadth of communication types that few in the industry rival, spanning voice, SMS, a full complement of OTT messaging apps, email, video and fax. Sinch has been aggressively acquiring other CPaaS players in recent years, with its growth roughly evenly split between these acquisitions and organic. Sinch is developer-focused, with a network of SI partners available to deliver services alongside its platform.

How Sinch Competes

- Sinch's wide range of acquisitions (17 since 2016) of CPaaS competitors has allowed the vendor to quickly expand its scale past what could be achieved organically.

- Sinch's new Conversation API unifies customer journey design across all the messaging types it supports, including SMS. This is combined with an omnichannel view for agents that aggregates all textual communications with a particular customer in one interface.

- Sinch has strongly leveraged partners on two fronts: with SIs to help deliver full solutions, as described above; and with large CRM and other platforms to integrate both the ability to deliver communications programmatically and the aggregated data from those communications.

- Sinch's direct connectivity to hundreds of carriers around the world gives it a scale and reach that few competitors can match.

Tanla

Product or Portfolio Overview

India-based provider Tanla was founded in 1999 as a bulk SMS provider, but has evolved into a full-fledged CPaaS player with its blockchain-based Wisely product. While A2P SMS remains the bulk of Tanla's business, it has added advanced messaging types like WhatsApp Business API, orchestration and integration into the enterprise value chain via its Karix acquisition. Tanla also added a marketing automation platform, CDP and recommendation engine via its Gamooga acquisition in 2019.

How Tanla Competes

- Having roots in Asia/Pacific and specifically India has led Tanla to strong success in that region, and the vendor is now expanding into the Middle East as well.

- Its Wisely product encrypts message content end to end between enterprises and telcos, ensuring it does not have access to any communications between customers and end users. This is an advantage for security-conscious customers, and also enables Tanla to publish all data on a public blockchain, which provides record-keeping transparency.

- Tanla offers vertical-specific CPaaS solutions for banking, e-commerce, automobile, retail and government.

Twilio

Product or Portfolio Overview

Founded in 2008, San Francisco-based Twilio is the CPaaS market's first success story and its largest player. Twilio introduced the concept of integrating communications into business processes via APIs and SDKs. Its offering spans voice, SMS, video, email and IoT, although it lacks support for advanced messaging beyond WhatsApp and Facebook Messenger (beta). It has phone numbers in more than 120 countries and mobile network operator (MNO)-approved application-to-person (A2P) connections in 18.

How Twilio Competes

- Twilio prides itself on its strong developer community, which drives bottom-up pressure from R&D to use its platform for communications. Twilio enables co-creation via a network of system integration partners.

- Twilio also possesses a strong breadth of carrier relationships, allowing the vendor to address a large total available market (TAM), particularly for voice and SMS.

- Twilio has capitalized on its success in CPaaS by branching into other markets. These include CCaaS with Twilio Flex; relationship management with Twilio Frontline; and IoT with its super SIM, the Electric Imp acquisition and its microvisor development. This allows Twilio to address broader classes of customer problems than other vendors.

- Twilio has enhanced its offering with the purchase and integration of Segment, leveraging that vendor's mass of communications data and metadata to offer a CDP capable of personalizing user interactions across all offered media.

Vonage

Product or Portfolio Overview

Founded in 2001 in New Jersey, UCaaS vendor Vonage entered the CPaaS market in 2016 with its acquisition of Nexmo, followed by its acquisition of TokBox for video in 2018. Since that time, Vonage has focused on integrating these API stacks with its UCaaS and CCaaS products to serve a unified offering. Most of its business comes

from video, voice and SMS, although it has recently expanded into advanced conversational messaging. Vonage has seen strong success across geographies, with significant revenue in the Americas, Europe and Asia/Pacific.

How Vonage Competes

- By offering a unified UCaaS, CCaaS and CPaaS package, Vonage can appeal to both cost-conscious organizations that seek volume discounts and organizations that want to deal with as few vendors as possible for their collaboration needs. It further provides diversity of offering, considering the competitiveness of all three markets.

- This package also covers customer experience initiatives for organizations transforming and integrating their contact centers, websites, social messaging channels, and web and mobile app interfaces.

- By unifying these products technologically, Vonage reaps more customer benefit for the same R&D cost, which in theory should enable the vendor to advance in all three markets more efficiently.

- The Vonage Connect ecosystem, which is 600-plus partners strong and is more focused on SIs rather than pure resellers, brings Vonage a breadth of both business application integrations and channels to market. This has in turn enabled the vendor's broad geographic footprint.

References and Methodology

Gartner conducted primary research with 20 CPaaS vendors using a questionnaire method as part of our process for crafting [Market Guide for Communications Platform as a Service](). This document was further enhanced with Gartner research such as technology and market analysis of CPaaS providers, as well as information from inquiries and vendor briefings. We also analyzed publicly available information to develop this landscape. Sources of information include published company announcements, announced deals and financial reports. Our conclusions about competitive positioning consider these inputs but ultimately reflect our judgment based on our overall perspective on the market. Factual information for the vendors was reviewed by the companies.