

CPaaS will grow dramatically over the next several years, changing the way enterprises engage with customers and integrate with other applications to create innovative, omni-channel communications and services.

Beyond the Hype: Finding the Right Cloud Communications Platform

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Introduction

Digital transformation is an important goal for companies today. Many are turning to transformation to achieve a specific task or as a comprehensive company mission. Cloud platform as a service (CPaaS) is an important technology that facilitates digital transformation, allowing the rapid implementation of customer engagement solutions at scale using real-time application programming interfaces (APIs) to engage with customers across a variety of channels.

Enterprise spending on customer engagement will grow rapidly over the next five years. IDC predicts that by 2022, over 70% of enterprises will utilize CPaaS platforms to create applications leveraging voice, SMS, and use case APIs such as two-factor authentication APIs to enable customized and personalized customer engagement solutions. As a result, IDC forecasts that CPaaS revenue will grow 40% per year, exceeding \$17 billion in 2023.

Over the next several years, a dizzying array of new companies will offer customer engagement solutions to organizations as the market's potential growth rate garners new entrants on a global basis. This rapid expansion — with many players incorrectly labeling themselves as CPaaS providers — makes it difficult for potential CPaaS customers to select the most appropriate vendor. However, the best providers will have a track record of at least 8–10 years with CPaaS as their core competence.

A platform that is global, reliable, scalable, and interconnected with the worldwide telecom carriers should be the primary decision factor when choosing a quality CPaaS platform.

What Is CPaaS?

CPaaS incorporates real-time communications, including voice, messaging, video, and email, to create innovative and differentiated enterprise applications. CPaaS platforms offer cloud-based communications APIs that make it easy to integrate services into critical business processes, such as customer relationship management (CRM), logistics, transactions, and customer support. These APIs provide powerful building blocks that simplify the programming process required to create and implement real-time communications solutions that interact with a range of enterprise applications. The resulting solutions are personalized, agile, cost effective, and scalable.

AT A GLANCE

KEY STATS

IDC forecasts the global CPaaS market will grow from \$3.3 billion in 2018 to \$17.2 billion in 2023.

WHAT'S IMPORTANT

The CPaaS market has evolved from a developer-driven sector to an enterprise-driven sector.

Traditionally, many enterprise applications were separate from the real-time communications applications. CPaaS links them into a seamless experience for customer, partner, employee, and stakeholder interactions. The technology simplifies the process of application and channel integration so that organizations can more easily react to changing market and customer needs. CPaaS solutions are scalable and can be localized so an organization meets the needs of its customers, with seasonal variations, regardless of location and preferred communications channel. APIs provided by these cloud communications platforms include voice, messaging, video, email, omni-channel conversations, menu-driven visual development tools, and security services.

Key CPaaS Developments and What to Expect in Cloud Communications

- » Enterprises are embracing CPaaS. Data from a 2019 IDC survey indicates that 25% have adopted at least one CPaaS function, and another 26% plan to test the service this year. Service providers continue to expand the capabilities of their technology, and new entrants are entering the segment.
- » Usage of both SMS and voice APIs continues its steady growth. CPaaS providers continue to introduce innovative new solutions that are cost effective, provide efficient global coverage at scale, and help companies report better customer engagement and ROI. Other growth drivers include the ability of CPaaS providers to offer reliable and stable services as well as simplified programming capabilities such as Visual App building tools. The latter further simplifies logic creation and expands the creative process beyond developers to personnel with little or no coding experience.
- » Perhaps the biggest market development is the increased incorporation of artificial intelligence (AI) and machine learning (ML) automation into CPaaS. AI actively impacts experiential engagement, business and manufacturing processes, strategies, and more. As linkages between enterprise applications and real-time communication grow, AI analytics that enable automated customer service agents, security and safety benchmarks, preventive maintenance, fraud reduction, and Internet of Things (IoT) use cases will become a major component of the future real-time connected enterprise.
- » The IoT is an important use case. CPaaS providers will help enterprises rapidly accommodate and automate the configuration and notification management of a plethora of new devices including for wearables, connected automobiles, and manufacturing.

All these new devices and communication options raise reliability, security, and scalability issues.

Benefits of CPaaS and Key Differentiators for Providers

- » CPaaS provides an enterprise-grade and a cost-effective offering to power global customer engagement.
 - Leaders in the CPaaS segment are providers that possess a reliable, scalable network and interconnection with hundreds of top-tier local telecom carriers around the world. This network includes global nodes distributed across multiple continents that optimize call and SMS routing for the best call quality and fastest and most efficient delivery.
 - Top providers offer unlimited scalability that provides on-demand and reasonable variation. Other key benefits offered by top providers are reduced latency, performance guarantees, and uptime service-level agreements (SLAs).

- CPaaS allows rapid scaling of applications in a cost-efficient manner similar to other cloud services. Stated simply, CPaaS enables flexibility and reduces capital expenditures.
 - The security capabilities of top API providers should include encryption of data in transit and at rest as well as transparency and insight into network performance via strong and easily accessible monitoring and reporting tools.
- » CPaaS enables simplification in the building of customer engagement applications.
- CPaaS providers simplify application building by providing SDKs and open source example applications in various programming languages. Enterprises can benefit from the ease of customizing their communications applications by leveraging extensive documentation, use case how-to guides, and example quick-start applications provided by API platforms.
 - CPaaS providers create a unified technology offering by integrating and consolidating disparate network infrastructures including legacy and IP voice as well as mobile platforms and various other proprietary technologies.
 - By using open standards-based APIs, CPaaS frees enterprises from the restrictions of proprietary software packages. It also allows integration with CRM software such as Salesforce and Zendesk.
 - Real-time interactions enable omni-channel customer engagement including support, verification, call center services, and chatbots, all of which are important aspects of CPaaS. CPaaS also helps companies implement embedded processes into existing platforms with minimal disruption and reduced complexity compared with legacy software platforms. As a value-add, CPaaS allows for interactions over multiple channels, making possible use cases such as dynamic call routing and omni-channel conversations to engage with customers.

Considering Plivo

Privately held Plivo has been a leading CPaaS platform provider since 2011. The San Francisco-based company offers a portfolio of voice and SMS messaging. It also offers a modern SIP trunking service that provides carrier connectivity across the globe and real-time analytics. Plivo's investors include Andreessen Horowitz, Qualcomm Ventures, Battery Ventures, and Y Combinator.

The company currently serves 70,000 customers, spanning a diverse range of industries and business sizes. Plivo's platform offers connectivity in 195 countries, and the company has server locations (points of presence [PoPs]) across 7 regions around the world. It has a diverse customer base across verticals such as financial services, retail, enterprise software, communications. Other important company attributes include the following:

- » **Fast go-to-market process.** Plivo offers prepackaged use case templates that allow businesses to drastically reduce their development times and simplify the entire go-to-market process.
- » **Direct carrier relationships.** Plivo offers direct connectivity to tier 1 local carriers in 195 countries around the world for its voice, SMS, and phone number offerings.

- » **Intelligent routing.** The company has built a self-learning routing engine, with the goal of providing great voice call quality and SMS deliverability at great prices.
- » **Enterprise-grade redundancy and scalability.** The platform is designed and architected for an enterprise-grade offering with the goal of providing 99.95% uptime and virtually unlimited scale.

Plivo's mission is to simplify business communications. The company's offerings help organizations modernize their customer engagement by more effectively integrating communications functionality into their enterprise applications. Plivo's solutions help companies integrate SMS and voice features into applications more quickly and reach users across the globe at any scale.

For example, the Plivo voice API platform lets companies control voice communications to receive, make, route, and manage calls globally. The platform encompasses many other use cases such as conference calls, voice notifications, voicemail, cloud IVR, and call forwarding. Using the Plivo SMS API platform, enterprises engage with their customers over mobile devices seamlessly, helping organizations optimize their customer engagement. Features include the use of short codes, local phone numbers, toll-free numbers, two-factor authentication, message queuing, and feedback APIs. Plivo's Call and Messaging Insights provides advanced analytics and reporting to customers.

Together, Plivo's CPaaS and SIP trunk offerings give enterprises the ability to scale communications globally with pay-as-you-go pricing, premium call quality, and reliable connectivity. Plivo's SIP trunk offering — Zentrunk — enables enterprises to connect their existing telecommunications infrastructure with worldwide telecom networks across the globe within minutes. Zentrunk also provides a user console for debugging, analytics, and management of day-to-day services.

The company offers a serverless menu-driven development tool called Plivo High-Level Objects (PHLO). The tool helps resource-challenged companies spin up applications faster without additional infrastructure expense. Plivo's development platform provides a visual drag-and-drop capability for building custom applications using prebuilt templates that the company claims reduce the development cycle by 80%. PHLO supports a vast use case library, enabling the rapid building of simple to sophisticated applications.

Challenges

With the projected growth in CPaaS, Plivo faces increased competition from a diverse range of competitors. It is critical that Plivo demonstrate its leadership position and technological advantages through case studies and other documented proof of the benefits of its offerings. Similarly, as more companies leverage digital platforms, providing additional omni-channel capabilities integrated with a wide range of third-party applications will be an important attribute.

Conclusion

Digital transformation and customer engagement are critical issues for virtually every enterprise today, with organizations seeking cost-effective ways to migrate and establish efficient digital engagement channels. Businesses must devise new ways of communicating with multiple and disparate customers that use a diverse range of channels, including voice, SMS, and multiple social media platforms. Companies are migrating and upgrading their IT systems to capitalize on new customer engagement methods, but digital transformation is a challenging process that few have mastered.

More suppliers are also touting CPaaS offerings, creating significant market confusion. Enterprises should therefore identify a strong CPaaS partner capable of meeting their requirements. IDC recommends that enterprises ask potential providers about their capabilities in the following areas:

- » **Global network infrastructure.** Does the CPaaS provider have the experience and investment in global infrastructure to deliver reliable, latency-free service around the world?
- » **Quality carrier network.** Has the provider demonstrated consistently high-quality service through integration with reputable local telecom carriers worldwide?
- » **Technology platform.** Does the provider have the required tools, such as APIs, a powerful feature set, and comprehensive analytics, that will help the organization meet its goals?
- » **Agility and scalability.** Is there the capability for virtually unlimited scalability, including tools and services for rapid on-ramping and deployment?
- » **Ease of use.** Are the solutions user friendly, and do they enable developers to quickly incorporate real-time communications into applications?
- » **Service and support.** Does the provider have strong documentation and customer service capabilities?

CPaaS leverages the benefits of cloud services technology: the ability to rapidly scale applications, cost efficiency, and open source platforms and capabilities.

With customers demanding 24 x 7 access to enterprise applications from a wide range of devices, CPaaS is a critical tool for successful digital transformation. However, it is not a bolt-on solution. Finding the right provider is a critical decision that requires careful thought. To the extent that Plivo can meet the challenges outlined in this document, the company has a significant opportunity for success in the CPaaS market.

About the Analyst



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Courtney Munroe is responsible for IDC's continuous research on global telecommunications trends. His core research includes the evolution of WAN networking to software-defined hybrid wide area networking and the impact of digital transformation on the WAN architecture. His research focus also includes consumer and enterprise networking requirements and analysis of the strategies of communications service providers as they transform to implement new business models.

MESSAGE FROM THE SPONSOR

Plivo is a cloud communications platform that empowers businesses to connect, engage, and interact with their customers in a more effective and meaningful way. By combining modern software expertise with deep telecommunications industry experience, Plivo offers simple, intuitive, and easy-to-deploy building blocks that enable companies of all sizes to quickly and easily integrate Messaging and Voice capabilities into their applications.

Thousands of businesses around the globe including IBM, Workday, Godaddy, and Lifesize rely on Plivo to power their Voice and Messaging communications on a global scale. Our premium global network with direct relationships with Tier-1 local carriers delivers consistently high-quality connectivity around the world. Our intuitive platform with detailed developer documentation, server-side and client-side SDKs, and pre-packaged, ready-to-deploy templates enable businesses to build and deploy in a matter of hours.

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