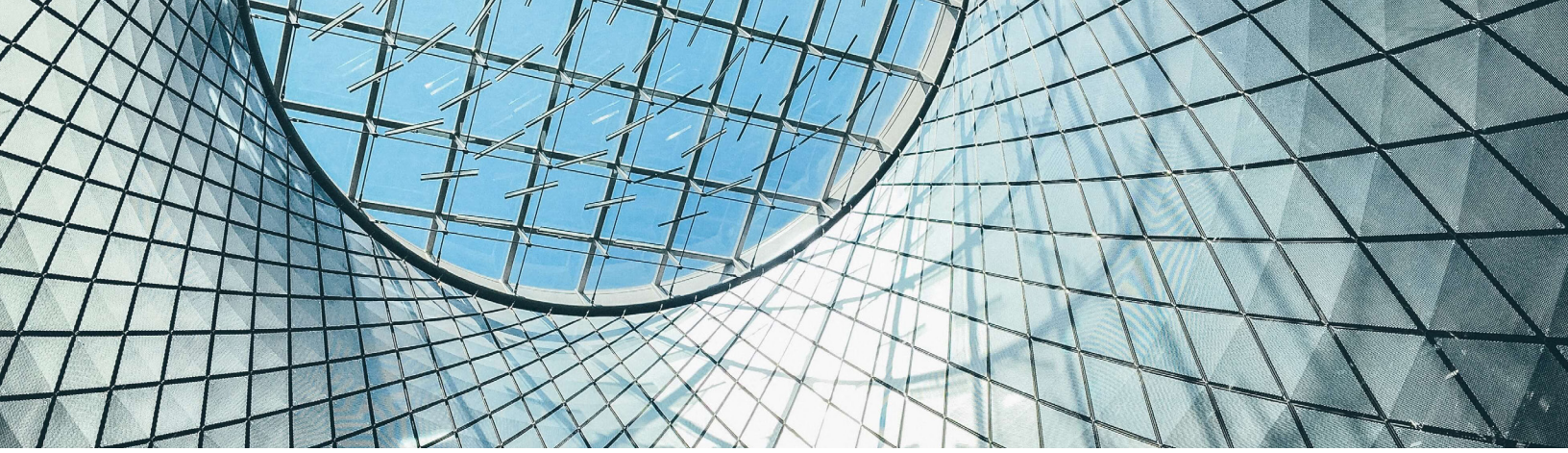

Market Insight Report Reprint

Multicloud CPaaS: Enabling resiliency, business continuity and scalability

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We look at the challenges that organizations face with the deployment of embedded communications to support the digitization of the customer and employee experiences, and how multicloud CPaaS can help them build resiliency, business continuity and scalability.

451 Research

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Introduction

Communications PaaS (CPaaS) – a disruptive, platform-based approach for real-time communications – is emerging as a key enabler for the digitization of the customer and employee experiences. As organizations look to extend the reach of their business communications to support digital transformation initiatives, they will face numerous challenges related to resiliency, business continuity and scalability. In this report, we look at how a multicloud approach for deploying CPaaS can help organizations address these challenges.

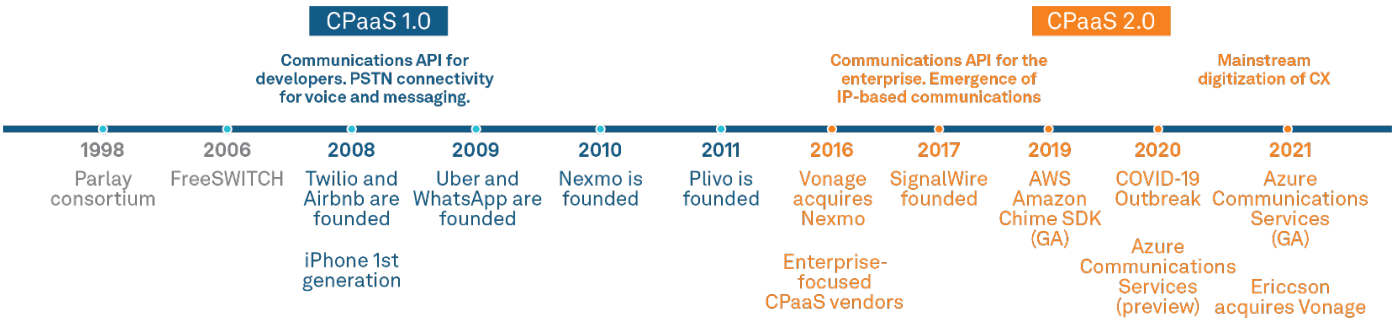
THE TAKE

CPaaS has undergone significant consolidation in the past five years, with vendors looking to accelerate their product roadmaps and expand their geographic coverage. However, this remains a fragmented space, with major differences in terms of the reach and capabilities that vendors provide, highlighting the complexities involved in delivering real-time voice and data communications. As enterprise adoption continues to grow, we expect CPaaS will mirror key trends driving the evolution of the larger IaaS/PaaS market – namely, adopting a multicloud approach (e.g., using two or more infrastructure-oriented public clouds), which can be instrumental for organizations looking to extend the reach of their communications strategies while addressing enterprise requirements for reliability, scalability, security and compliance.

CPaaS plays a key role in the digital economy

Comprising a wide range of vendors focused on enabling developers and enterprises to embed real-time communications into their mobile and web applications, CPaaS plays a key role in the digital economy. The emergence of cloud-based providers of telecom APIs is intertwined with that of digital-native companies including on-demand sharing economy players – such as Airbnb Inc., Lyft Inc. and Uber Technologies Inc. – and over-the-top (OTT) messaging apps like WhatsApp and Facebook Messenger. CPaaS played a central role, providing the underlying infrastructure that enabled these vendors to deliver a disruptive user experience, leveraging real-time application-to-person (A2P) and person-to-person (P2P) communications (figure 1).

Figure 1: CPaaS Evolution – Key mileposts

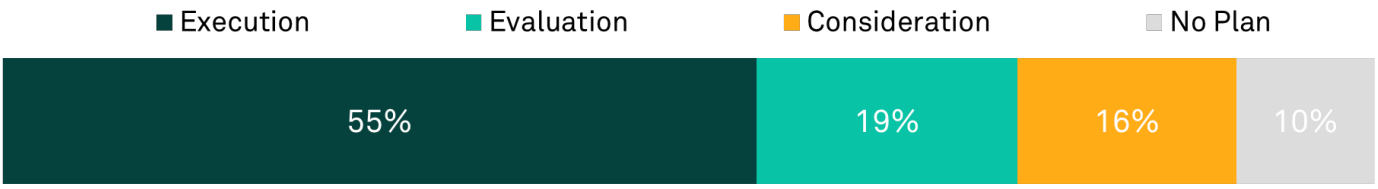


Source: 451 Research

The success of digital-native companies has led enterprise organizations to evaluate the use of CPaaS to redefine how they engage with their customers and employees. While already gaining traction, this trend accelerated with COVID-19, which triggered a sense of urgency for the digitization of the customer and employee experiences.

According to 451 Research's VotE: Digital Pulse, Budgets & Outlook 2021, nearly all surveyed organizations are at some stage of digital transformation, with more than half (55%) actively executing on a digital transformation strategy (figure 2). We expect this will add further momentum to CPaaS enterprise adoption. According to 451 Research's recently published CPaaS Market Monitor, this segment is projected to grow at a CAGR of 23% in the next five years, reaching $29 billion by 2026.

Figure 2: More Than Half of Surveyed Organizations Are Actively Executing on a Strategy for Digital Transformation



Q. Which of the following best describes the status of your organization's digital transformation strategy?
Base: All respondents (n=470)
Source: 451 Research's Voice of the Enterprise: Digital Pulse, Budgets & Outlook 2021

CPaaS remains a fragmented landscape

Organizations looking to evaluate the use of CPaaS for digital transformation initiatives will face a fragmented landscape, with a wide range of vendors that have different approaches and capabilities for delivering real-time communications. As noted in our CPaaS Market Guide, these approaches and capabilities cut across four main areas: connectivity to the telephone network and IP-based services, geographic coverage, go-to-market approach, and the range and type of communications APIs they provide (figure 3).

Figure 3: CPaaS Market Segmentation Criteria

	Connectivity	Geographic Coverage	Go-to-Market Approach	API Portfolio
Description	Does the platform provide access to the PSTN, IP-based services, or both? Which services are included (voice, SMS, digital channels)? Does the vendor rely on its own network or provide access to third-party networks?	In which countries or regions is the service available?	Does the vendor target enterprises and developers? Does it partner with communication service providers (CSPs), enabling these to compete as CPaaS vendors?	Range and type of communications APIs
Attributes	PSTN IP-based services	Global Regional: North America (NA); Europe, Middle East, Africa (EMEA); Asia Pacific (APAC); Latin America (LATAM)	CPaaS CPaaS enablement	Horizontal: vendor provides a wide range of APIs. Vertical: vendor provides a specialized set of APIs addressing specific requirements.

Source: 451 Research's Communications PaaS Market Guide 2021

CPaaS providers will choose to differentiate their product and go-to-market strategies by focusing on one or more specific areas. For instance, vendors with a telco background tend to have a strong focus on voice connectivity with a comprehensive suite of APIs to manage services such as purchasing phone numbers, provisioning session initiation protocol (SIP) trunks, configuring advanced voice scripts, conference calling and SIP registrations, some have built a strong messaging offering or may focus on supporting video collaboration use cases.

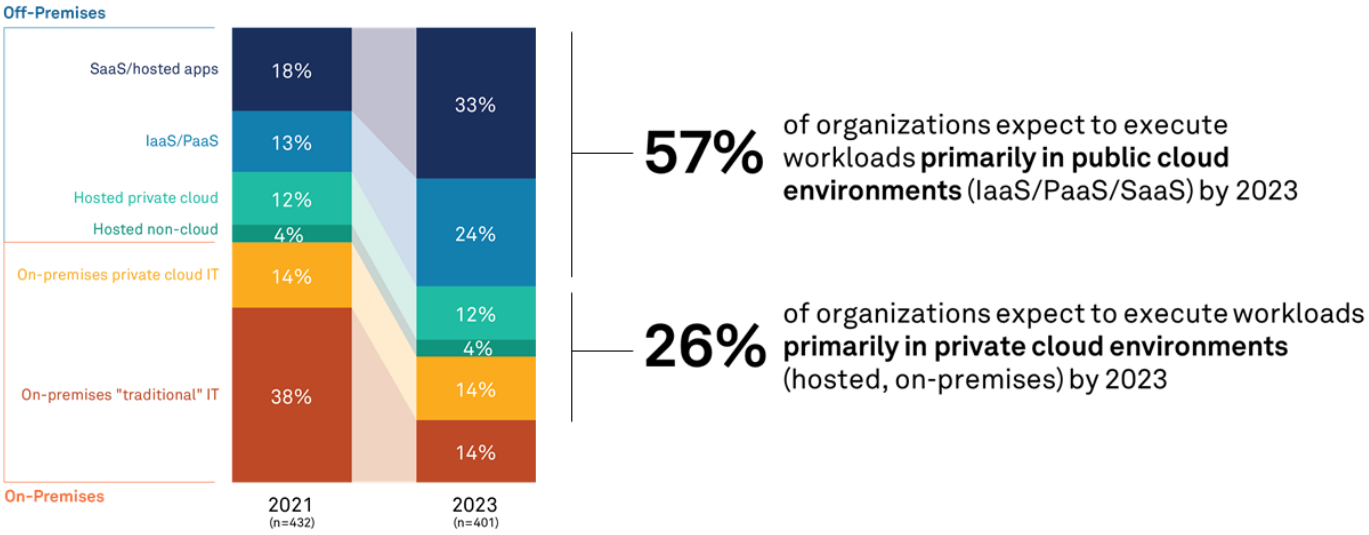
Other vendors have developed a strong focus on the customer experience, providing support for a wide range of messaging apps (e.g., WhatsApp, Viber, Facebook Messenger), or may seek to differentiate based on advanced capabilities to support the customer journey, such as Conversation AI or Customer Data Platform. The complexity of the landscape is further compounded when we factor in attributes such as security, global coverage and compliance requirements (e.g., GDPR, FINRA, HIPAA and PCI).

Multicloud is the rule, not the exception

As mainstream enterprise adoption continues to grow, we expect CPaaS will mirror key trends driving the evolution of the larger IaaS/PaaS market. 451 Research's VotE: Cloud, Hosting & Managed Services survey shows that public clouds have become a mainstream offering in the enterprise IT toolkit, with 55% of organizations currently using IaaS/PaaS – up from 50% in 2020 – and more than two-thirds using SaaS.

While we expect that heterogeneous IT estates, including on-premises infrastructure, will remain in use for years to come, our research shows that hybrid is steadily ceding ground to multicloud as the organizing principle of digital-era IT. The on-/off-premises IT paradigm is giving way to a more expansive view as organizations seek to build, operate, manage and secure workloads 'here, there and everywhere' with public, private and edge clouds (figure 4).

Figure 4: Workloads Are Moving Toward a Mixture Of Modern, Cloud-Based Infrastructure Environments



Q. Which of the following best describes the primary environment used to operate your organization's workloads/applications today?

Q. Which of the following best describes the primary environment in which your organization's workloads/applications will be operated two years from now?

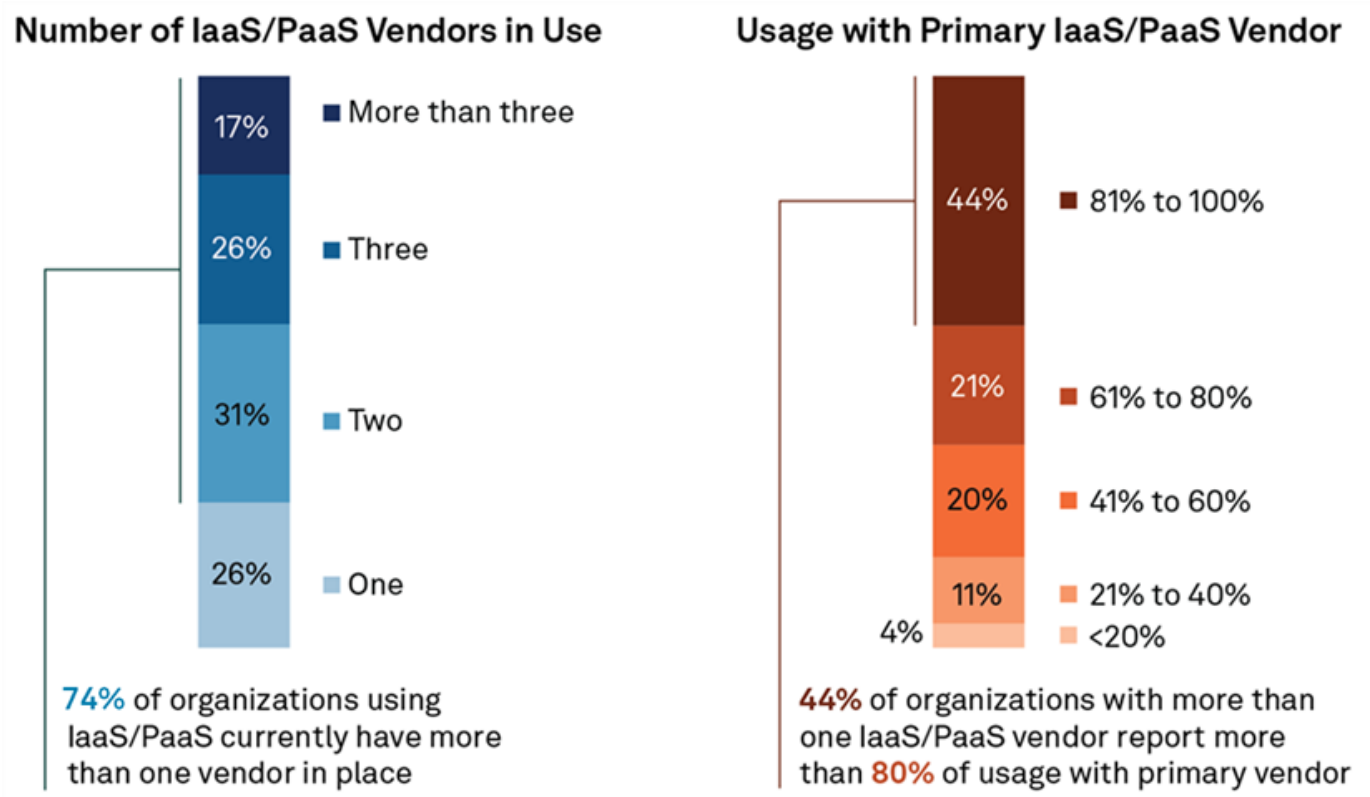
Base: Respondents with workloads/applications.

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Workloads & Key Projects 2021

Multicloud organizations tend to have primary providers

According to 451 Research's Voice of the Enterprise (VOTE) Cloud, Hosting & Managed Services Vendor Evaluations 2021, 75% of surveyed organizations using public clouds are currently multicloud (e.g., using two or more infrastructure-oriented public clouds), with an average of 2.6 cloud providers in use. Of those organizations with more than one public cloud vendor, 44% say that more than 80% of their usage is with their primary vendor (figure 5).

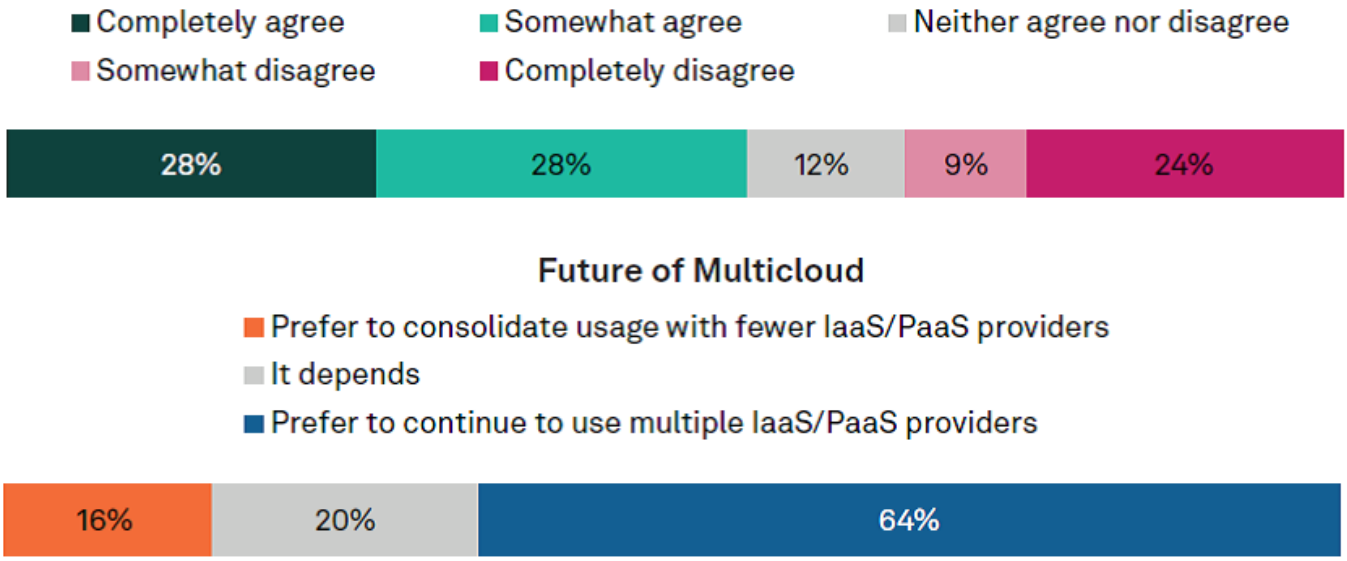
Figure 5: Multicloud Holds Ground As Focal Point of Cloud Transformation



Q. Which of the following vendors is your organization currently using for IaaS/PaaS public cloud? Select all that apply.
Base: Current IaaS/PaaS/public cloud users (n=279).
Q. What percentage of your IaaS/PaaS public cloud usage is with your primary vendor?
Base: Respondents with multiple IaaS/PaaS vendors (n=259)
Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Vendor Evaluations 2021

Survey results show that most cloud-mature organizations tend to aggregate more of their usage with their primary vendors as opposed to those at earlier stages of cloud implementation. However, survey data also shows that digital transformation leaders (i.e., organizations that have a formal strategy and are actively digitizing business processes and technologies) are more likely to distribute their usage more broadly (figure 6).

Figure 6: Preference for Multiple IaaS/PaaS Public Cloud Providers



Q. Please rate your level of agreement with the following statement: By design, we spread out IaaS/PaaS public cloud usage across multiple providers.

Base: Respondents with multiple IaaS/PaaS vendors, abbreviated fielding (n=110)

Q. You indicated that your organization uses multiple IaaS/PaaS providers. Which of the following best describes your organization's approach to multicloud going forward?

Base: Respondents that use multiple cloud providers (n=205)

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Vendor Evaluations 2021

Conclusions

Technically speaking, multicloud is second nature for CPaaS, given that vendors will typically manage a complex network of partnerships with carriers and other CPaaS vendors to ensure service reliability and connectivity. However, for organizations looking to deploy CPaaS to support their digital transformation initiatives, a multicloud approach can be instrumental for addressing challenges related to resiliency and scalability, in addition to global coverage and regional regulation requirements.

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