

CPaaS is evolving from the delivery of voice and messaging notifications to more sophisticated customer engagement strategies that include secure email and the delivery of electronic information in a secure, compliant environment.

Email Encryption APIs: Leveraging Cloud Communications to Integrate Secure Messaging, Email, and File Exchange into Applications, Portals, and Workflows

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Introduction

The communications platform-as-a-service (CPaaS) market is becoming a tangible force in the communications industry, driven by enterprise digital transformation requirements. Growing numbers of enterprises are engaging customers via mobile applications, providing customer support and commerce on the web, and integrating proprietary, internal applications with customized application programming interface (API)-driven notification applications.

CPaaS facilitates the creation of customized customer engagement applications, such as interactive voice response (IVR), contact center services, chatbots, and SMS notifications. CPaaS is appealing because it is relatively simple to implement and is based on open source platforms and the pay-per-use cloud transaction model.

A cloud communications platform as a service facilitates the creation of customized customer engagement applications by leveraging web service APIs. The advent of cloud computing and the ubiquity of mobile devices have facilitated the emergence of the cloud communications sector as a viable platform for enterprises seeking to leverage seamless methods of customer engagement.

At the same time, CPaaS is evolving from the provision of point products focused on voice and SMS to full-fledged platform solutions, including email, that target various lines of business (LOBs) within the enterprise with omni-channel capabilities that include secure emails, files, and electronic forms.

AT A GLANCE

KEY TAKEAWAYS

- » Web service APIs enable developers to add communications functions from the cloud.
- » The CPaaS category is expanding beyond voice and SMS to include email, which is poised to become an integral aspect of CPaaS.
- » APIs for encrypted email enable secure integrated services to replace separate point solutions.

Definitions

CPaaS facilitates cloud-based hosting and management of APIs. CPaaS providers offer communications APIs, which are routines and tools that simplify the programming process required to create and implement real-time and asynchronous communications solutions. APIs can be embedded into enterprise applications, including mobile applications, as well as web platforms and business process applications, such as customer relationship management (CRM) systems and contact centers.

CPaaS offers developers a platform that includes a wide range of coding languages and flexibility (i.e., Node/JS, Ruby, PHP, .NET, Java, Python, Perl, and ColdFusion). It also offers a catalog that can be prototyped in hours and implemented into a production process in days rather than months.

CPaaS allows developers to test and develop software in a cloud environment that can then be integrated in an on-premises environment. Usage is generally in the cloud model, with no up-front hardware and software costs, no contracts or commitments, and no subscription fees required to get started. Payment models vary based on application, usage, and scale. In its simplest form, payment is based on microbilling tied to actual usage.

Benefits

The key benefits that businesses can obtain from using CPaaS can be categorized in the following ways:

- » **Enabling open source platforms.** CPaaS offers the ability to leverage open source programming languages, which facilitates a cost-effective solution to prepackaged or large-scale custom solutions. CPaaS can help companies expand their marketing reach and provide instantaneous, low-cost transactions at scale. This change is rapidly revolutionizing the creation and delivery of services as well as the way applications are developed and implemented by traditional service providers (SPs) and software providers.
- » **Providing simplicity, flexibility, and scalability.** Perhaps the most recognized hallmarks of CPaaS are its ease of use and agility. By leveraging restful APIs, developers can reduce the amount of time spent on creating code and focus instead on meeting customer expectations and delivering an optional customer experience. This facilitates the development of applications that can be customized to specific company requirements and scale. The applications can also be designed for and integrated into the back-end infrastructure.
- » **Allowing integration with proprietary platforms.** This is a key attribute of CPaaS. Enterprises can leverage APIs to integrate the secure delivery of email, files, and electronic forms from within proprietary platforms such as Salesforce. Thus companies can leverage their investment in proprietary platforms while reducing the need for additional custom requirements.

CPaaS will disrupt email delivery as it has done with voice and SMS. The provisioning of programmable, secure, and industry-compliant delivery of email and documents will add an additional enhancement to basic email marketing and notifications. CPaaS-based secure email and file exchanges can provide substantial savings on call centers, as well as service personnel expense, while improving productivity and customer experience.

Trends

Over the past few years, the CPaaS market segment has experienced rapid growth, emerging as a sector dominated by independent developers and custom applications. IDC projects that CPaaS market revenue will increase from \$3.5 billion at the end of 2019 to \$17 billion by 2023, growing 40% per year.

Several key trends are contributing to the growth of CPaaS. Enterprises are moving rapidly to migrate to cloud platforms, and they are also implementing digital omni-channel strategies for greater agility and personalization of customer engagement options. CPaaS facilitates agility and innovation by offering simplified and rapid on-ramp capabilities to implement and enhance enterprise applications with new functionalities.

CPaaS is driving the adoption of APIs beyond the cloud-native segment and use for internal operations. This trend will continue to revolutionize enterprise customer engagement strategies over the next few years.

Customer interactions including service, customer support, chatbots, and various transactions ranging from notifications to two-factor authentication are increasingly common aspects of modern CRM platforms. CPaaS can help companies rapidly implement embedded processes into their existing platforms with minimal disruption and with reduced complexity compared with legacy software platforms.

CPaaS providers will increasingly expand the number of channels available for serving customers. Formerly, CPaaS was focused on voice and text messaging capabilities. Verification and video followed in the second wave of services that were integrated. The next wave will focus on the integration of email notifications into CPaaS platforms. The delivery of email is different from the delivery of voice and SMS notifications.

The United States currently has over 200 million email users, with over 400 million email accounts. While email encryption services are prevalent, the use of CPaaS to deliver secure and industry-compliant communications is restricted to a small number of companies with the necessary expertise and relevant certifications. Most email encryption is currently delivered as a dedicated subscription service, so the provisioning of a secure and compliant API service is an underserved sector and presents tremendous promise for companies that are cognizant of the security requirements but want an improved sender-recipient experience.

Considering DataMotion

DataMotion is a privately held supplier of secure data exchange services based in Florham Park, New Jersey. Its technology enables organizations of all sizes to reduce the cost and complexity of delivering electronic information to employees, customers, and partners in a secure and compliant way. The DataMotion Secure Data Exchange (SDX) platform delivers easy-to-use encryption services for email, file transfer, forms processing, and customer-initiated contact, which makes it ideal for highly regulated industries. In the healthcare sector, DataMotion is an accredited health information service provider of Direct Secure Messaging.

DataMotion offers an in-depth set of APIs that are easily integrated with a customer's solution, quickly enabling the incorporation of secure messaging, service provisioning, and administration to embed secure communications into enterprise applications, workflows, and user interfaces. Features include:

- » **DataMotion SecureMail APIs**, in which email encryption services APIs for secure messaging (and file transfer) applications leverage standard email addresses to send, receive, and store messages and files

- » **DataMotion SecureMail Provisioning APIs** that enable service provisioning and onboarding for new SecureMail accounts (tenants and individual user accounts)
- » **DataMotion SecureMail Administration APIs** that allow for secure messaging service administration, including password reset, adding or deleting users, and utilizing the single sign-on (SSO) admin capabilities by tenant companies

Challenges

The CPaaS sector is still a small segment of the overall enterprise applications market. Leveraging CPaaS requires some customizing, which is both an advantage and a challenge because it requires the expertise of developers. With the exception of a small number of large enterprises, the majority of companies lack an in-house development team. Most companies rely on purchasing prepackaged solutions and depend on third-party systems integrators to customize applications. The established CPaaS companies are moving rapidly into this segment via acquisitions or partnerships with email-focused notification companies. New entrants such as DataMotion will face a challenge gaining visibility in the short term.

Conclusion

Cloud communications platform as a service facilitates the creation of customized customer engagement applications, leveraging APIs. It provides enterprises with the ability to implement innovative, customized customer engagement applications that can be automated for omni-channel marketing and outreach.

CPaaS is evolving from the delivery of voice and messaging notifications to more sophisticated customer engagement strategies that include secure email and the delivery of electronic information in a secure, compliant environment.

Companies can rapidly create solutions with the aid of a specialized CPaaS provider such as DataMotion that has a strong portfolio of APIs specifically designed for the delivery of secure email, files, and electronic forms. IDC believes the CPaaS market will continue to grow over the next several years. To the extent that DataMotion can address the challenges described in this paper, the company has a significant opportunity for success.

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About the Analyst



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Courtney Munroe is responsible for IDC's continuous research on global telecommunications trends. The 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 communications service provider strategies as they transform to implement new business models.

MESSAGE FROM THE SPONSOR

Sponsor Perspective

Industries such as healthcare, financial services, and insurance, as well as many enterprise-class government agencies are under rigorous compliance mandates to ensure the privacy and security of their constituent's information – be it health, financial, or general identity. Communicating and sharing this information in an efficient and appropriate way via email is a core requirement of their business processes. Unfortunately, most enterprise-class email encryption services are delivered as pre-packaged solutions with limited opportunities for customization and integration – which often make them cumbersome and inefficient for both the sender and recipient. Separate logins and user interfaces put them out of sync with other online self-service, support, and engagement apps.

SecureMail APIs overcome these issues by providing developers an easy way to embed secure messaging and file exchange into the high-volume customer service workflows, portals, and mobile applications that employees and constituents use to engage each other online. CPaaS email encryption APIs and services can thereby elevate the digital experience across business processes without compromising usability, security or privacy.

For more information on the shift from email encryption as a subscription product, to email encryption as an integrated communication service, visit www.datamotion.com.

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