

# The Critical Role of CPaaS in Reaching Customers on their Channels of Choice

---

How messaging infrastructures enable multichannel engagement in the experience economy

Publication Date: 10 May 2019

Author: Jeremy Cox

---



## Summary

### In brief

While advanced CRM applications continue to evolve from static systems of record into customer engagement platforms (CEPs) able to support cross-departmental and multichannel customer experiences, there is also an evolution occurring in the underlying mobile communications infrastructure – communications platform-as-a-service (CPaaS). The two technology streams are converging on the customer. CEPs orchestrate content, guidance, recommendations, and alerts throughout the customer journey, and CPaaS provides the means to orchestrate and route communications traffic to the customer's preferred channels, including social channels, and devices.

### Ovum view

In the laudable rush to develop a consistently positive customer experience, most customer experience professionals are unaware of the quiet revolution in CPaaS and its critical role in customer experience and potential to enrich interactions at the optimum time. Equally, those in the IT department responsible for ensuring that the underlying communications infrastructure supports the business are often unaware of the evolution of CRM into a hybrid system of engagement and record.

Among the factors contributing to the glacial progress being made in multichannel customer engagement is a lack of understanding of these complementary technologies. This white paper examines the complementary roles of both CEPs and CPaaS and the underlying principles that shape their successful execution and accelerate progress.

Growth comes from persistent relevance, and today that means helping each customer achieve their desired outcomes with minimal friction – the reason they interact with a firm or brand in the first place.

### Key messages

- Four core principles are at the heart of a well-executed multichannel customer experience.
- CPaaS is evolving and will create new opportunities to delight and reach customers across any communications network.
- A hierarchy of technology layers supports dynamic orchestration of the customer experience.
- Infoways Pty Ltd. connects schools and emergency services to protect lives.

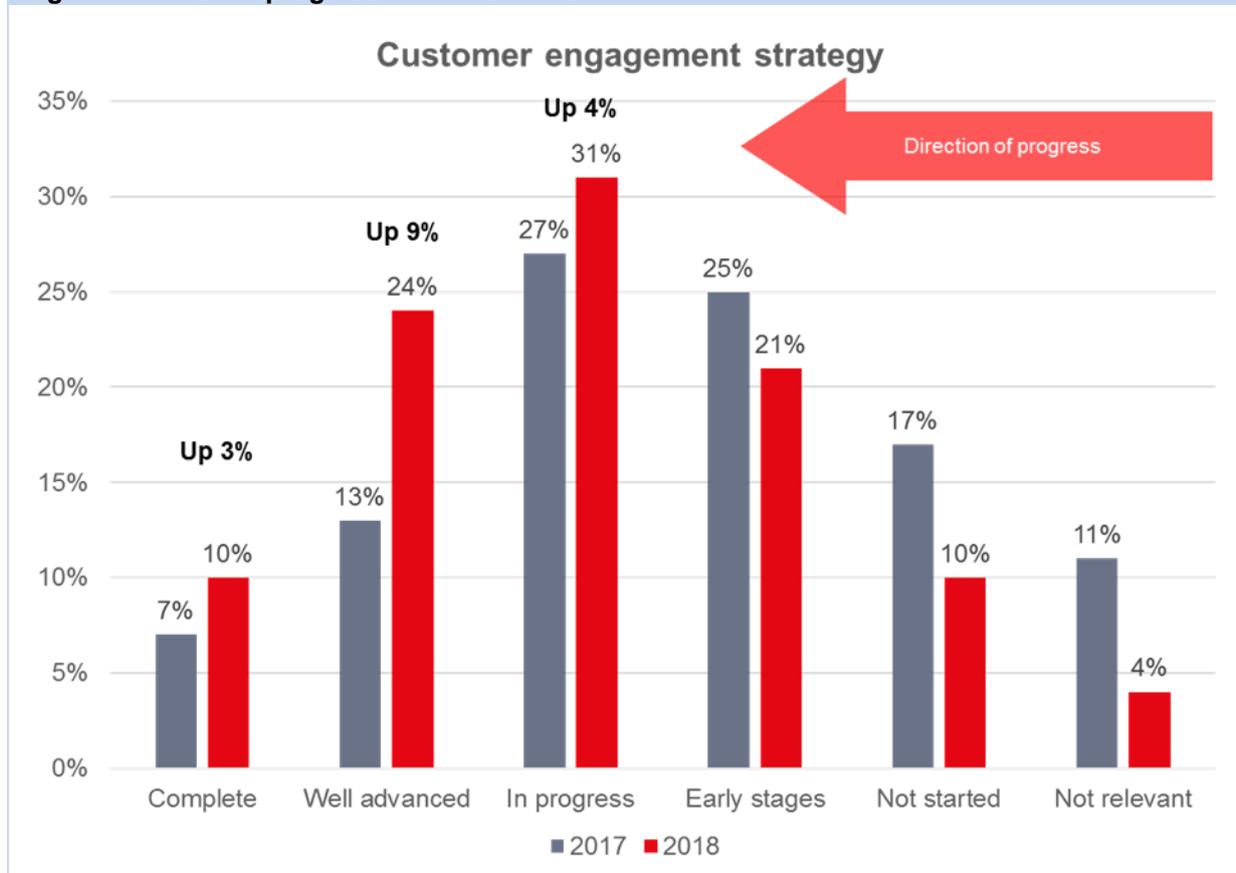
## Four core principles are at the heart of a well-executed multichannel customer experience

### Less than 10% of enterprises have mastered multichannel

Multichannel customer engagement is complex, and siloed departmental approaches yield poor results. Figure 1 provides a comparison between 2017 and 2018, showing that progress toward a complete customer engagement capability is being made at a glacial pace. Of the nine digital transformation categories Ovum researched, multichannel customer engagement (arguably the most important, as growth depends on it) had progressed the least. Across all industries and regions, less

than 10% of enterprises claimed to have mastered it. Over 64% of enterprises are languishing in the early stages or at the starting blocks. Progress over the two years is measured in single-digit percentage points.

**Figure 1: The slow progress to multichannel**



Source: Ovum's Global ICT Enterprise Insights 2017/18 survey. N (2017) = 4,798, (2018) = 4,899.

## Why is progress so slow?

Customers expect and demand Amazon-like experiences, from finding products to receiving them, and getting help or support if and when they want it. If an item is out of stock for some reason, or there is a delay in shipment, they expect to be notified. Customers do not expect perfection, but they do expect to be kept informed and updated, at a minimum.

This implies a high degree of organizational coherence and integration. Departmental, process, and data silos are prevalent in organizations that struggle with personalized and contextual engagement. Front-office departments, marketing, sales, service, and commerce operate in silos, often supported by point solutions and departmental processes. This is completely at odds with customer journeys, which can be very random and spur-of-the-moment and touch multiple departments. Channel silos add to the friction, and this is particularly the case when it comes to the inability to send and manage relevant, real-time messages triggered by customer activity, specific events, or business rules embedded in enterprise applications.

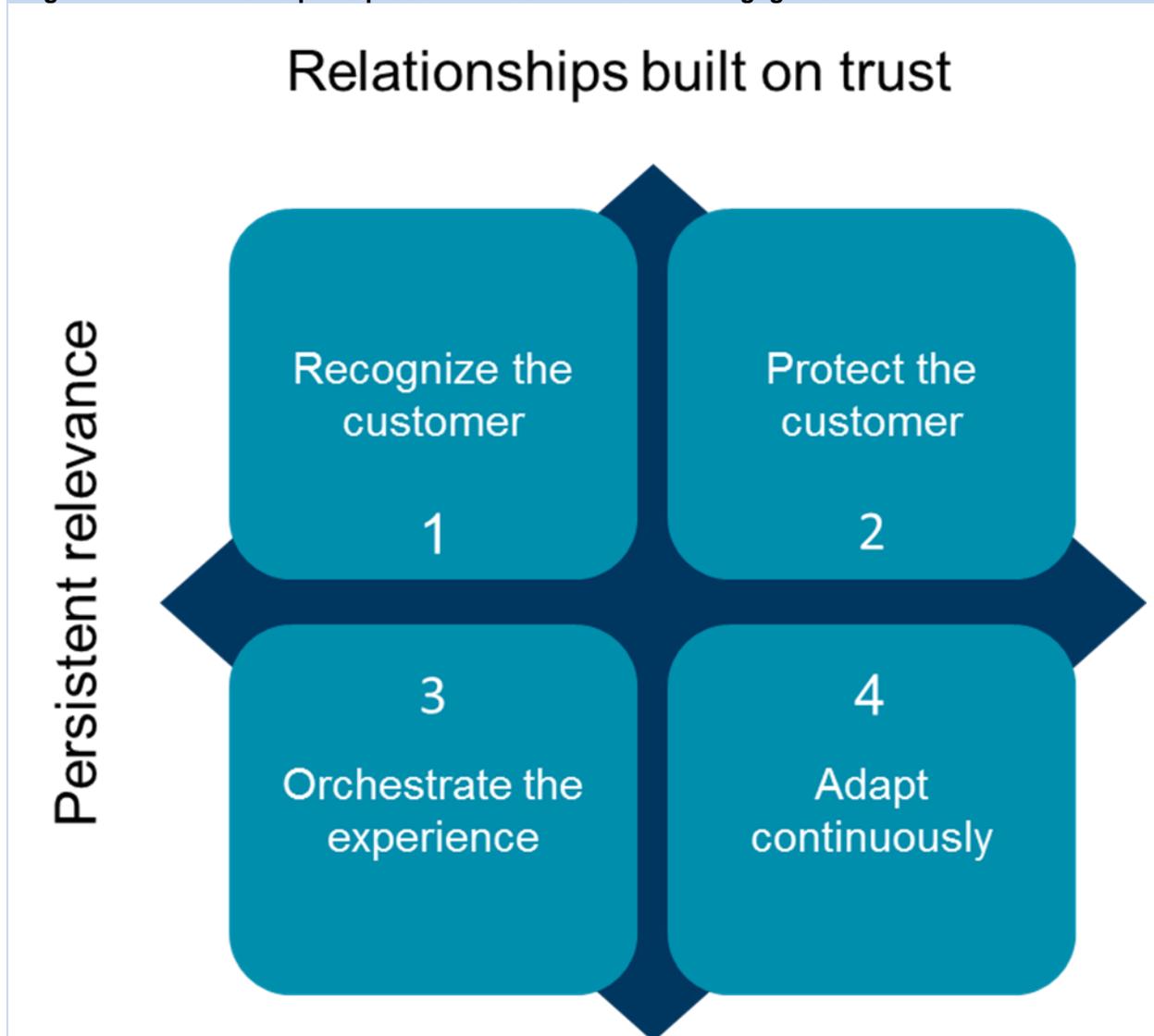
This "last mile" of communications requires thought and planning, and it must be deliverable no matter the mobile network, device, or connectivity to warn customers of an outage or delay or to provide a

vital fraud protection message, such as an SMS-based warning from a credit card company or bank. Unraveling this legacy mess and operational friction demands a much more strategic and well-thought-out approach, viewing the organization not as a series of departments, but as a system of value creation and delivery focused on the customer.

## Persistent relevance and trust foster positive relationships

In essence, four critical principles must be borne in mind in any multichannel customer engagement strategy, and they must persist in the underlying messaging infrastructure (see Figure 2).

**Figure 2: The four core principles at the heart of customer engagement**



Source: Ovum

Trust and relevance foster lifetime customer relationships. The reverse has the opposite impact, and is the reason why around 70% of S&P 500 companies may go out of business by 2030, if the trend toward diminishing lifespans continues.

## 1. Recognize the customer

Recognition of the customer or persona (if not yet a customer) is essential to form the basis of any personalization.

The customer's channel preferences must also be recognized for critical and noncritical use cases, based on their expressed choices, what they have opted in to, and their historical response data. For example, a customer may prefer email and have opted in to receive SMS. An example of a critical use case is an airline sending an SMS alert about a flight cancellation. Social channels must also be included, as some customers, having been notified via SMS that their planned flight has been cancelled, like the immediacy of social channels when posting a concern about alternative flight arrangements.

Apart from anything else, recognition and respect for channel preferences foster a positive emotion in the customer – a sense that they are important to the company and not just another prospect or number. This is typically less of a challenge in business-to-business (B2B) environments than in high-volume business-to-consumer (B2C) settings, although anyone interacting with the customer, for example when the customer seeks help, must recognize them. The underlying data about the customer, such as their history and live interactions, must be unified to determine their contextual needs. In high-volume B2C environments, customer data management is not just challenging, but also critical. Customer recognition is an important first step in developing a longer-term relationship, and goes deeper than just identity to include the customer's history with the company and a recognition of their implied intent based on their interaction journey.

## 2. Protect the customer

Protecting the customer starts with protecting information about them and being completely transparent about the intended use of that information. It includes cybersecurity, protection from the fraudulent use of their data, respect of their privacy, gaining permission to use their data, and giving them control over it, not just to comply with regulation such as General Data Protection Regulation (GDPR), but, above all, to foster trust. A permission-based approach to gathering and using customer data is essential to create transparency and foster trust, and with almost weekly press reports of major failures, there is now heightened sensitivity to this critical attribute.

CPaaS also plays an important role in secure and reliable communications, the prevention of cyberattacks, denial-of-service attacks, and hacks, and the detection of fraudulent spam. Two-factor authentication (2FA) to verify transactions and users and one-time passwords (OTP) or password resets are important and common use cases. These protect not only the customer but also the enterprise data from malicious acts and actors, and enhance trust and confidence in mobile- and e-commerce. To meet regulatory demands in some regions and industries, messages, alerts, and notifications must be stored. Message archiving is another important service to meet these regulatory requirements. It is also useful in the context of business continuity and recovery, enabling the enterprise to get back to business quickly following a disaster or a major outage. A rapid recovery not only serves the interests of existing customers and the enterprise, but also fosters greater trust and confidence in the brand.

## 3. Orchestrate the customer experience

Customer journeys are less predictable than most customer experience planners would like. Rather than a series of linear and logically organized interactions to achieve an obvious aim, they can be

chaotic and start from any point, device, or social network and from a deliberate search or a response to a campaign. They may be interrupted by an external event as simple as a phone call or knock at the door, and then resumed, perhaps on a different device, as the customer switches from a smartphone to a tablet, for example. In high-volume consumer environments, with millions of interactions taking place every day, a map of all interaction journeys would resemble the apparent chaos of international air traffic, but more unpredictable, as customers do not file flight plans.

The customer experience challenge is to orchestrate relevant content, advice, and offers or respond in the most relevant way.

From a CPaaS perspective, communications must be routed to the customer through their preferred channels. If there are connectivity issues, such as no network signal due to the customer's location, messages must be intelligently rerouted to the most appropriate alternative channel available, in line with the customer's preferences.

Increasingly, customers want and expect their engagements with their favorite brands to adapt seamlessly as they change location or activity.

This creates two major challenges in high-volume B2C or B2B2C environments:

- continuity of experience across multiple channels, devices, or connectivity
- real-time engagement utilizing the most preferred or appropriate channel for message delivery.

The first of these challenges requires technology and process support for customer journeys and engagement. The entire value chain or network may be involved, which is why this is so complex and why progress to multichannel engagement can be so slow. This is the role of the CEP, and when supported by a robust CPaaS with solutions based on application programmable interfaces (APIs), it ensures that any outbound messaging is routed to the right person at the right time across any network. Intelligent interconnectivity must form part of the CEP.

#### **4. Adapt continuously**

The traditional mechanisms for adaptation are the voice of the customer/employee (VoC/VoE) and the use of sentiment analysis from social networks or instant post-purchase customer feedback. These techniques are still of great value, particularly in surfacing systemic weaknesses or triggering a rescue action if a customer's low score indicates a potential defection. However, being able to sense and adapt at any point in the customer's interaction journey based on detected or inferred intent demands advanced and connected intelligence to deliver dynamic orchestration. These traditional and more modern feedback loops must work in conjunction to provide a complete picture of customer journey traffic, its positive or negative consequences, and any behavioral changes, such as the adoption of a new or more convenient channel.

While traditional enterprise applications have been very good at capturing and monitoring operational data, CEPs and VoC/VoE applications now capture and monitor experience data and are getting better all the time in eliciting the emotional element of the experience that is remembered by the customer long after the transactional elements have been forgotten. It is this synthesis of transactional, operational, and experience data that enables a firm to triangulate the customer's context and intent. Being able to sense the customer's state and intentions or infer desired outcomes provides the insight to drive relevance at every interaction step along the customer's journey.

CPaaS enables messages to be delivered and feedback to be gathered in a timely manner, such as immediately after the customer's experience, when they are most likely to provide feedback. Once triggered by an event based on business rules or intelligence contained within the enterprise CEP, it routes the request for feedback (in some cases an SMS-based survey or poll) to the customer's mobile device, subject to permission. In any one country there may be multiple network providers, but this becomes more of a challenge for an enterprise without an effective CPaaS with a secure and reliable global messaging network with extensive subscriber reach, if their customer happens to be travelling internationally and moving from one network to another or if the enterprise serves customers across the globe.

## CPaaS is evolving to create new opportunities to reach and delight customers across any communications network

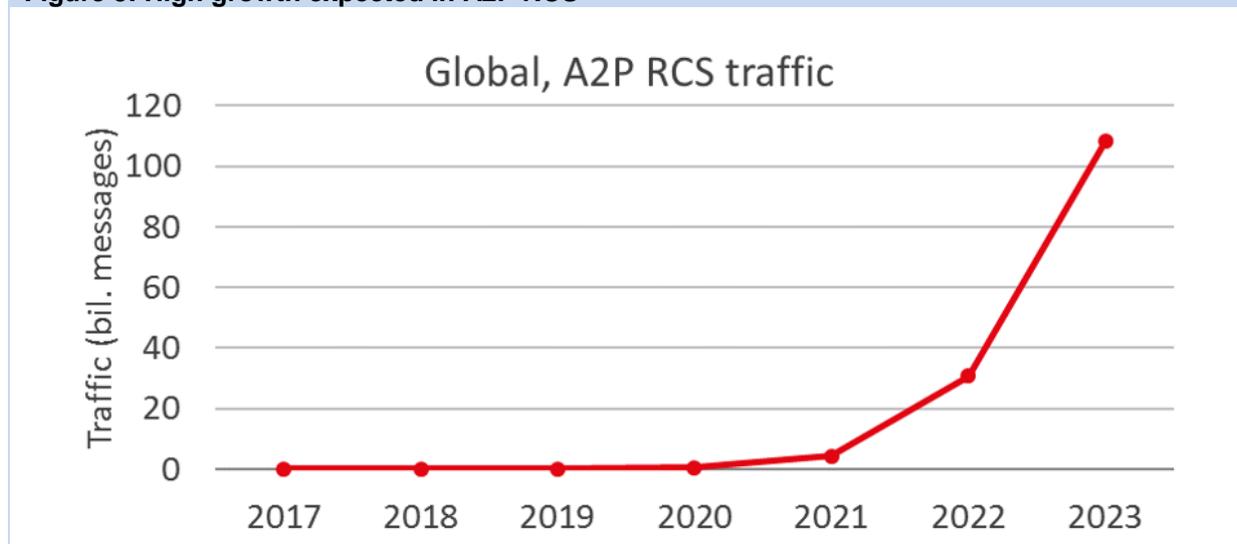
### Simplified and reliable connectivity across the world's mobile networks is the starting point

Mobile technologies and mobile-enabled digital channels are essential, and have transformed how organizations and their customers, employees, and partners engage with each other. Simplified connectivity via a single messaging API and an intelligent decisioning engine not only enables multiple channel connectivity, but also ensures that a message reaches a customer via their preferred channels – SMS, email, push, social, or emerging channels such as Rich Communication Services (RCS) and chatbots. It is impractical for an enterprise to negotiate contracts with all the world's network providers, but leading CPaaS providers have already done so, in the main. As an example, SAP Digital Interconnect provides interconnectivity to over 1,000 mobile network operators across more than 220 countries and territories and has the potential to reach almost every mobile user globally.

The prevalence and familiarity of SMS makes it a very useful medium for important and time-sensitive alerts, such as notifications of gate changes at an airport. The ubiquity of SMS makes it a natural choice for real-time messaging, whether application-to-person (A2P) or person-to-person (P2P). But like all technologies, there are two sides to it. It is a highly efficient mechanism for sending important messages or alerts. For example, Virgin Trains in the UK uses an intelligent automated text-messaging system to guide travelers to the right platform to catch their train at London's busy Euston train station and avoid the usual stampede that occurs when a train's platform is announced by the station announcer. It alerts its older customers first, to give them time to walk to the platform and avoid the stampede. The Australian government provides an automated emergency alert service, EmergencyAlertAus, to provide warnings and instructions to citizens in the event of a raging bush fire or on how to avoid a threatened area. Based on GPS information, nonresidents approaching the area are also alerted to the danger. But although SMS is useful, it is limited to simple text or links. More advanced communications methods such as RCS create new opportunities to augment the customer experience.

## RCS is still at the starting blocks, but promises a richer experience

**Figure 3: High growth expected in A2P RCS**



Source: Ovum RCS Traffic and Revenue Forecast Report: 2018–23

RCS is still in its infancy, but Ovum predicts that it will grow exponentially over the next three to four years, as enterprise customer experience leaders seek to enrich customer communications to augment the customer experience and as CEP vendors enhance their platforms (see Figure 3).

CPaaS vendors and telcos will need to offer RCS to meet the growing need.

These are some of the potential advantages offered by A2P RCS:

- Once the carrier and end user has activated RCS on the customer's smartphone, the same phone number is all that is required to reach them.
- It provides verified business accounts to let the customer know the message is safe and the customer is protected.
- It provides rich media messaging including images, videos, and carousels to provide highly engaging and visual cues to reinforce the message.
- It provides intelligent fallback, so if the customer has not yet activated RCS, the message defaults to SMS.
- Carousels provide multiple cards within a message with individually crafted calls to action for each card.
- Read receipts ensure the message has been read/seen.

Like SMS, such technology must be used with care to avoid spamming the customer. A2P RCS would be triggered by a specific event, so if the permissions and business rules have been set up correctly, only relevant and in-context messages will be sent.

A highly relevant and rich media message, if delivered at the right time during the customer journey, is likely to be received positively by the customer and reinforce the brand's image and values. P2P RCS is also expected to grow exponentially, reaching 8.9 trillion messages by the end of 2023, and will become an expected mode of messaging by an ever-increasing proportion of the population.

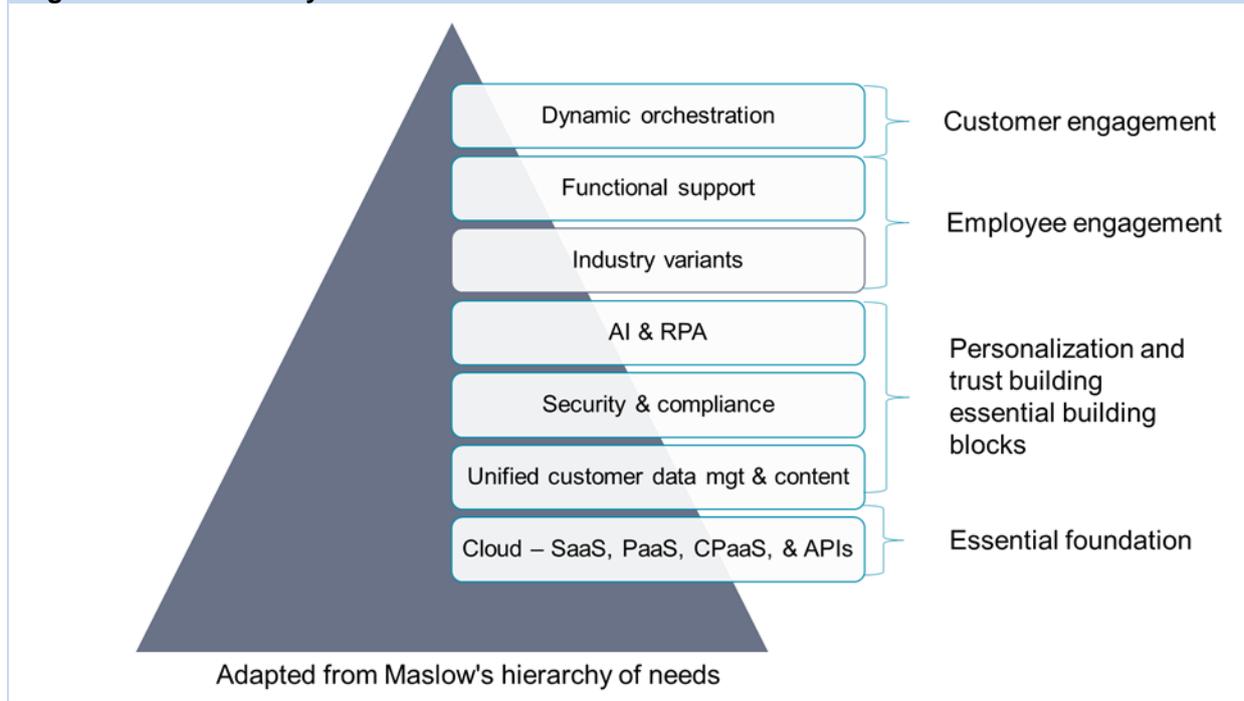
CPaaS and CEP must be considered together if enterprises are to orchestrate positive experiences at every interaction moment. The CEP does the heavy lifting, but it needs CPaaS with simplified interconnectivity and multichannel engagement options to complete the last mile securely, in the right format and at the right time.

## A hierarchy of technology layers supports dynamic orchestration of the customer experience

### CEPs need to incorporate CPaaS to be effective in a true omnichannel environment

Ovum first noticed the evolution of CRM software suites and how they were morphing into hybrid systems of record and engagement in 2015. Anticipating the need for the dynamic orchestration of each customer interaction moment across all customer journeys, and cognizant of emerging technologies such as artificial intelligence (AI), Ovum conducted its first comparative analysis of CEP vendors in August 2018. The ideal technology "stack" can best be presented as a Maslow's hierarchy of needs. In other words, dynamic orchestration rests on different "layers" of technology that can be contained within a single platform, involving one or two vendors or created by integrating multiple solutions and technologies from several vendors (the slow route).

**Figure 4: The seven-layer model of a CEP**



Source: Ovum

### The cloud infrastructure layer must include an effective CPaaS

At the bottom of the pyramid is the cloud. This includes software-as-a-service (SaaS) for the functional applications, platform-as-a-service (PaaS) for microservices and extensions, CPaaS for

global connectivity across any mobile network and device, and APIs to connect back-end systems such as enterprise resource planning (ERP), supply chain management (SCM), or fulfillment and logistics systems. This essential layer provides the foundation for all the other layers, and from a CPaaS perspective, it provides the intelligent last-mile connectivity to the customer.

### **The unified customer data management and content layer**

Data management is critical to fuel machine learning (ML) and trigger the right response. A unified customer data platform (CDP) must extend beyond the narrow marketing confines of most CDPs. Personalized messages, offers, content, or guidance require accurate and contextual data allied to historic and operational data.

### **The security and compliance layer**

Trust lies at the heart of any relationship, and security and regulatory compliance is essential. Security must be embedded in every layer and application, including connectivity, all the way to the customer.

### **AI and robotic process automation (RPA)**

The intelligence and automation layer consists of a variety of AI tools, including natural language processing (NLP), ML, virtual assistants, and chatbots, to trigger the right response, kick-start a relevant workflow, or provide an automated and intuitive self-service capability for the customer. Many manual repetitive tasks can be automated and conducted more accurately through RPA.

### **Industry variants**

Different industries or different business models may require alternative practices, procedures, or data models. These differences must be enabled by the selected platform. A retailer operates very differently from a bank.

### **The functional support layer**

Classic CRM provided functional support for sales, marketing, and service. Today's modern CEP goes much further, often including commerce, content development, and subscription billing to support the increasing incidence of product rental versus purchase.

### **The dynamic orchestration layer**

This is where customer engagement meets the customer on their terms and across their growing variety of spontaneous journeys. All the other layers are enabling layers, and the orchestration layer is the culmination of these. Few, if any, CEPs are there yet, but as AI evolves and becomes more connected, then like the autonomous vehicle, customer engagement will become semi-autonomous – automating the experience by teeing up the right response, content, guidance, or message that helps the customer achieve their desired aims. The underlying CPaaS contributes to this orchestration through connectivity and intelligent routing across any network and by ensuring channel preferences are respected.

## **Infoways connects schools and emergency services to protect lives**

To educate children and save lives, schools and emergency services agencies need intelligent and scalable communications platforms and services that can reliably send and track messages to keep

parents informed and to support first responders. The Brisbane, Australia–based consultancy firm, Infoways Pty Ltd., develops and supports internal and external communications for school districts and emergency services agencies that need stable and secure interconnected engagements. Sometimes, messages are informational only; at other times, they transmit life-threatening information during crises. At the schools, parents had often said they did not receive a message about a student being absent and emergency services personnel wanted to make sure all vital information was relayed as quickly as possible.

Using mobile services from SAP Digital Interconnect, Infoways can apply a single, multichannel communications strategy to address both needs by enabling messages to be delivered via SMS or email depending on urgency or available connectivity. In addition to reliable messaging, customers wanted a solution that easily integrated with their existing systems and streamlined business operations. Infoways connects to SAP Digital Interconnect through a robust set of RESTful APIs and its developer-enablement resources, cloud-based solutions, and global messaging network allow Infoways to get new customers up and running quickly without waiting for hardware deployment or to configure new infrastructure.

## Appendix

### Author

Jeremy Cox, Principal Analyst, Customer Engagement

[jeremy.cox@ovum.com](mailto:jeremy.cox@ovum.com)

### Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at [consulting@ovum.com](mailto:consulting@ovum.com).

### Copyright notice and disclaimer

The contents of this product are protected by international copyright laws, database rights and other intellectual property rights. The owner of these rights is Informa Telecoms and Media Limited, our affiliates or other third party licensors. All product and company names and logos contained within or appearing on this product are the trademarks, service marks or trading names of their respective owners, including Informa Telecoms and Media Limited. This product may not be copied, reproduced, distributed or transmitted in any form or by any means without the prior permission of Informa Telecoms and Media Limited.

Whilst reasonable efforts have been made to ensure that the information and content of this product was correct as at the date of first publication, neither Informa Telecoms and Media Limited nor any person engaged or employed by Informa Telecoms and Media Limited accepts any liability for any errors, omissions or other inaccuracies. Readers should independently verify any facts and figures as no liability can be accepted in this regard – readers assume full responsibility and risk accordingly for their use of such information and content.

Any views and/or opinions expressed in this product by individual authors or contributors are their personal views and/or opinions and do not necessarily reflect the views and/or opinions of Informa Telecoms and Media Limited.

## **CONTACT US**

[ovum.informa.com](http://ovum.informa.com)

[askananalyst@ovum.com](mailto:askananalyst@ovum.com)

## **INTERNATIONAL OFFICES**

Beijing

Boston

Chicago

Dubai

Hong Kong

Hyderabad

Johannesburg

London

Melbourne

New York

Paris

San Francisco

Sao Paulo

Shanghai

Singapore

Sydney

Tokyo

