PORTFOLIO : SERVICE

ESTABLISHING PROGRAMMABLE COMMUNICATIONS ON YOUR TERMS

TATA COMMUNICATIONS CPAAS

FEB 2021

BACKGROUND

The mobile messaging landscape is evolving fast with new options and alternatives, which are broadly categorized as Communications Platform as a Service (CPaaS), including RCS, Instant Messaging and the concept of programmable communications services, via APIs. CPaaS delivers new options and integration possibilities. Traditional A2P messaging continues to be a resilient and widely used service, which is both pervasive and profitable. The expectation is that within 5 years, conventional SMS messaging will still contribute a majority of CPaaS revenue, but that alternative modes of messaging and communications will grow strongly[1]. For the moment SMS messaging is the dominant medium, but it is increasingly being used as part of a broader omni-channel communications strategy. What sort of shape will such a strategy likely take?

CHANGE AND CHALLENGE

SMS is a 3 decades old technology, which has stood the test of time remarkably well. It is a technology neutral services, with which almost anybody with a mobile phone of any type can be contacted. As smartphone ownership increases as a % of total mobile phones, with a projected 3.8Bn smartphone users projected by 2021, representing around 73% of total mobile users[2], this creates opportunities to enrich the mobile messaging experience for the majority of users, while still being able to serve the entire mobile community with standard SMS.

Over the past 10 years, a raft of SMS alternatives has sprung up, initially putting significant pressure on P2P SMS services. These alternatives include mobile messaging apps (WhatsApp, Viber, Line, KakaoTalk, WeChat, Google Messenger etc), which already enrich the base concept of SMS, with new features, such as picture messaging and text to talk. Multi-Media Messaging services (MMS) is another service, which enriches standard SMS with additional media. The GSMA Rich Communications Services (RCS) standard is regarded as the new generation of messaging. RCS Business Messaging (RBM) in particular is regarded as a GSM based response to the push into A2P services from the messaging app providers.

There are other alternatives and variations to the standard SMS capability. These include messaging over USSD, ChatBots and push notifications. There is now a blurring of the differentiation between messaging, email, apps, video and even voice services. So why not blend these services using a single communications platform – this brings us to the concept of

Communications Platform as a Service (CPaaS), whereby a range of communications capabilities can be transformed into software defined, programmable communications services. CPaaS presents a cloud communications platform, enabling omni-channel communications features to be integrated into enterprise applications, generally using well understood and standardised application programming interfaces (APIs) to accomplish this task. While CPaaS can just as easily integrate voice or email communications, as well as mobile messaging, it is nevertheless the clear trend for mobile messaging services and the way they are used.

MESSAGING BASICS REMAIN THE SAME

The key to maximising value from A2P messaging origination still lies in the ability to secure quality SMS delivery routes, together with extended global destination reach. If you are sending A2P messages you need to have the option to terminate those messages on as many mobile networks as required. It may not always be easy to ensure access to quality global routes while retaining commercial flexibility, but this dual objective is nevertheless important for commercial success.

You also need predictable SMS delivery, including the option of 2-way SMS exchange across the same established links. As we have already discussed, with the A2P messaging environment maturing fast, quality and reach – rather than just reach itself – is the goal. While protection against traffic blocking or degraded delivery quality is also important.

A fragmented messaging environment requires managed inter-connection and control. Although mobile network operators (MNOs) recognise the commercial A2P SMS opportunity, end customer experience and network protection against spam and fraud are also important factors. This is where a trusted intermediary can add assurance into the A2P messaging process. Limited mobile network reach and trust in commercial relationships with MNOs are significant challenges. This can result in delays getting access to certain destinations, unless there is already an established direct commercial relationship with an MNO. Even after agreement is reached with an MNO to terminate traffic on its network, there can be technical issues to be resolved to connect to SS7 signalling.

These challenges shape the priorities for an effective A2P messaging platform, namely:

• Supporting high-quality signalling message termination to multiple, global destination networks

[1] Future Market Outlook, Emerging Opportunities (2020-2025), Juniper Research (pub 2020)

[2] https://www.gsmaintelligence.com/

• Predictability in terms of known destinations for messaging termination

• Single point of distribution for SMS traffic, to minimise administrative effort and cost.

BLENDING NEW OPTIONS

We have introduced some of the ideas associated with programmable messaging and CPaaS. Let us take some time to examine how this approach can work in practice.

If you are confronted with a seemingly accelerating pace of change in the way that your organization is expected to work and engage with its customers and partners, then you are not alone. There is an almost constant need to re-calibrate the way organizations engage with their customers. The conventions associated with engaging customers via physical stores or call centers have been challenged, possibly irrevocably by COVID-19 just as much as by technology. Old fashioned websites and email blasts are no longer sufficient communications mechanisms.

Your customers want 2-way digital conversations using the channels of their choice. They want to be able to switch from voice to video, to text, to rich media without disruption. They expect asynchronous communication to fit in around their schedules.

The good news is that these digital journeys can now be supported. This is largely thanks to communications platform as a service (CPaaS).

CPaaS turns advanced communication flows into lines of software code. It gives your organization the ability to quickly integrate real-time voice, video and messaging into relevant and contextual business communications. It can do all this without the need to build back-end infrastructure or bespoke interfaces.

CPaaS used to be the preserve of new economy 'digital native' companies. This is no longer the case. Now virtually any business can switch to CPaaS within days and serve their customers with a rich communications mix.

WHY PROGRAMMABLE MESSAGING?

Tata Communications response to the need for programmable communications is **Tata Communications CPaaS**, our cloud communications platform, which lets your organization specify a communications workflow, customize it and roll it out to your customers quickly and easily. It can access workflows using a library of standard APIs, implemented in sequence for a specific customer response mechanism or communications flow.

Tata Communications CPaaS puts you in control of SMS, social media messages and mobile notifications integrated with your own business applications. With a programmable approach to mobile messaging you can schedule alerts and notifications, manage targeted marketing campaigns or respond to customer service issues, using workflows that are integrated with your corporate applications, including CRM, Billing, ERP and Accounting systems.
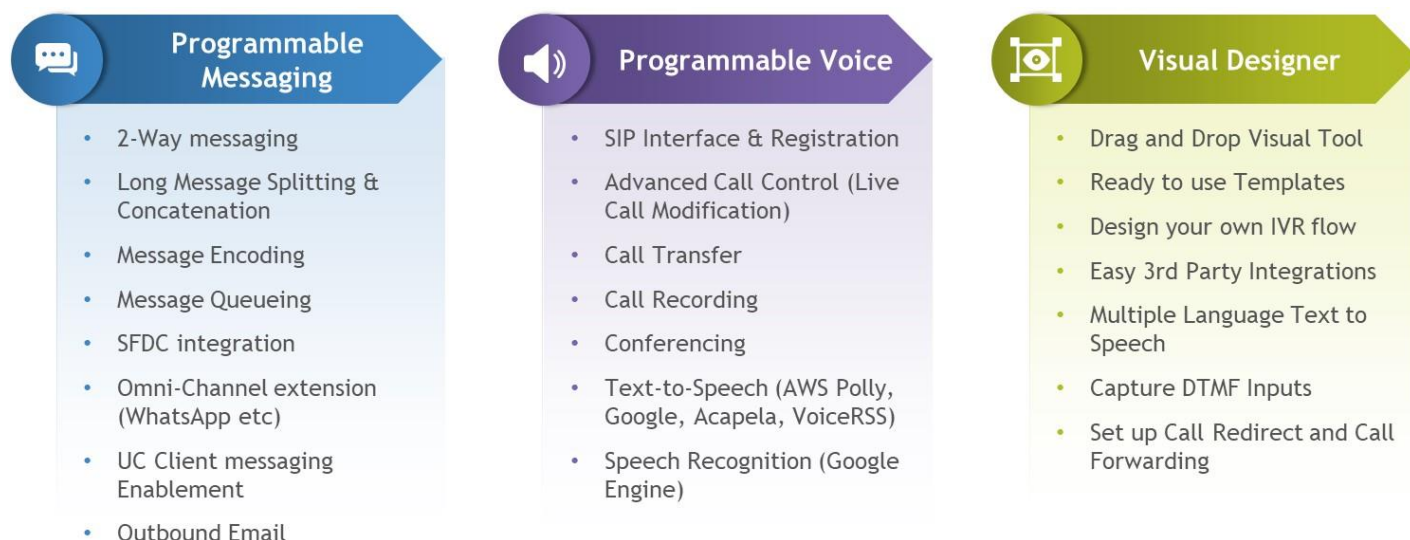
Programmable Messaging

- 2-Way messaging
- Long Message Splitting & Concatenation
- Message Encoding
- Message Queueing
- SFDC integration
- Omni-Channel extension (WhatsApp etc)
- UC Client messaging Enablement
- Outbound Email

Programmable Voice

- SIP Interface & Registration
- Advanced Call Control (Live Call Modification)
- Call Transfer
- Call Recording
- Conferencing
- Text-to-Speech (AWS Polly, Google, Acapela, VoiceRSS)
- Speech Recognition (Google Engine)

Visual Designer

- Drag and Drop Visual Tool
- Ready to use Templates
- Design your own IVR flow
- Easy 3rd Party Integrations
- Multiple Language Text to Speech
- Capture DTMF Inputs
- Set up Call Redirect and Call Forwarding

Figure 1: Tata Communications CPaaS focus on programmable communications

Tata Communications CPaaS brings a programmable messaging approach to omni-channel communications:

1. We support a library of APIs, helping you integrate multiple mobile messaging channel options with your own applications. This is supported by easy to use design tools. We also provide easily configurable pre-built applications, to make it as easy as possible to launch services.

2. On the delivery front, with a combination of our global IP network and multiple agreements with MNOs and peering partners around the world, we can deliver your communications flows with carrier grade security and reliability.

3. We manage all routing required for mobile messaging and IM termination

4. We provide a portal and online reporting capabilities for visibility on traffic termination and costs

Adopting Tata Communications CPaaS for programmable communications means working with a single trusted party for global communications management and message delivery. This makes it easier to secure access to global routes, along with more commercial flexibility through payment options that include per message charging, as well as the options for pre-paid or post-paid models. You can choose per destination pricing and send to as few, or as many destinations as required. A 3-day standard price change advance notice, as well as fixed duration price options, offer pricing stability.

Tata Communications provides global destination reach and quality routing and termination, maximising our own MNO relationships (established over decades in some cases) as a trusted service provider. Tata Communications CPaaS offers your organisation the convenience of a transparent, secure and easy to use programmable mobile messaging platform.

WHY TATA COMMUNICATIONS CPAAS BREAKS NEW GROUND

Programmability, flexibility and ease of use combined with carrier grade service3 delivery means that Tata Communications can offer an ideal omni-channel customer engagement blend. We have established direct signalling connectivity with more than 300 MNOs for conversion into direct message termination agreements. We extend global connectivity via peering agreements, ensuring all licensed MNOs are reachable. Well established relationships with hundreds of global MNOs mean reduced time to market, so you can get your mobile customer engagement strategy up and running quickly.

MOBILE CUSTOMER ENGAGEMENT LIFECYCLE

Mobile communications technology is influencing fundamental changes in the way that many enterprises operate. The adoption of mobile technology has become an integral part of the business strategy for some organizations and is fundamental for the survival of others. In recent years the introduction of a range of multi-featured Smartphones, Tablet and Phablet devices, together with an increase in mobile usage by consumers, means that lack of a mobile customer engagement strategy represents a significant risk for your organisation. Tata Communications CPaaS harnesses a range of capabilities to support you in the development and delivery of your mobile customer engagement strategy.

1. **Mobile Marketing:** using mobile to deliver innovative marketing, including social media integration, rich media services, text chat, contextual and location aware marketing

2. **Mobile Messaging:** Enterprise (A2P) messaging, supporting 1-way and 2-way SMS, alerts, notifications, passwords, authentication, delivered to global destinations, across quality routes

3. **Contact Centre as a Service:** InstaCC Global™ cloud contact centre virtualises the contact centre concept, for a range of customer contact options including mobile, SMS, social media integration, chat, IM, and self-care options

4. **Multi-Factor Authentication:** for secure online transactions, account sign-ins, mobile apps, websites, and more by providing multi-factor authentication (MFA) with one-time passwords. This can be delivered across SMS, Email or Voicemail channels

5. **SFDC integration:** Direct integration between Tata Communications CPaaS and SFDC, for seamless interaction with your customers direct from your SFDC instance

6. **Omni-Channel:** Extending enterprise messaging beyond SMS to encompass instant messaging variants, such as WhatsApp and other popular messaging apps

7. **Number Masking:** lets your customers make phone calls and send messages without exposing their full personal phone numbers.

8. **Click-to-Call:** whether via Tata Communications SIP, or WebRTC, customizable APIs, global coverage, call recording and IVR integration, as well as automated outbound A2P calling API