



## Connecting the Bots

Expanding reach and optimizing brand's investment with RCS connectors for the leading chatbot platforms

White Paper

# Connecting the Bots

## About Mavenir

Mavenir is the industry's only 100% software-based, end-to-end, Cloud Native Network Software Provider, purpose-built to redefine network economics for Communication Service Providers (CSPs).

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We embrace disruptive, innovative technology architectures and business models that drive service agility, flexibility, and velocity. With solutions that propel NFV evolution to achieve web-scale economics, Mavenir offers solutions to CSPs for [revenue generation](#), [cost reduction](#) and [revenue protection](#).

The graphic features the Mavenir logo in the center, surrounded by six key statistics in a blue background with white text. The statistics are arranged in two columns around the logo. Each statistic is separated from the others by a thin red horizontal line.

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LEADER IN MESSAGING 80%+ World's Messaging Footprint	GLOBAL FORCE 60% of Employees R&D/Innovation
MOBILITY EXPERTS WORLD'S FIRST VoWiFi, VoLTE, RCS and vEPC	OVER 250 OPERATORS 6 Continents 130 Countries

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# Connecting the Bots

## Executive Summary

Rich Communication Services (RCS) is set to replace the text-based Short Message Service (SMS) as the standard mobile messaging application for A2P and P2A consumer/brand interactions with significant improvements in media richness, interactivity, security, and brand discovery capabilities. Chatbots are a key component of the RCS P2A experience, but early adopters who have already implemented web-based chatbots will not welcome the idea of duplicating their efforts in a new channel.

This whitepaper goes over the challenges that brands are facing in their omni-channel strategies and provides guidance on why they should be investing in RCS campaigns. It also details how RCS can become another standard messaging channel available in the leading chatbot platforms to facilitate the relationship between brands and consumers.



## Brands Struggle for Reach

Since the dawn of civilization, in which commerce played a germinal role, businesses have always understood a simple principle: if you have something to sell, you have to find someone who wants to buy it. It meant you had to come up with a plan to make others aware of your product or service offering, which translated into the appearance of marketplaces and the creation of different strategies to get better positioning ahead of potential competitors—using announcements, signs, demonstrations, etc.

These practices have existed for millennia, but it was not until the late nineteenth century that the term “marketing” was first used to describe the activities related to the buying and selling of products, goods, or services.

Over the course of history, businesses have embraced all the technological advances that civilization created for their marketing purposes, to advertise their products and services and extend their reach to a broader market. The early written signs of a merchant’s stall became advertisements on billboards, newspapers, and magazines. The verbal announcements performed at the marketplace or along the streets of a town expanded their reach through radio and television. But even as technology evolved dramatically, the marketing channels could still be counted on one’s fingers and were primarily press, billboards, sponsorships, mail, radio, and TV. With the exception of mail—while, albeit slow, responses could be received—these channels were predominantly unidirectional.

The situation exploded with the arrival of mobile communications and the Internet, which ushered in the arrival of a fast-paced world in which enterprises have too many channels available for their limited marketing budgets. Today, matching the target market with the channel that provides the best balance between reach and return on investment has become a very complex exercise, often based on trial and error.

Additionally, today’s consumers have changed their habits, too. Radio and television have given way to social networks, web search, messaging applications, mobile apps, streaming services, and mobile messaging. Each of these options represents different demographics, needs, and limitations that heavily influence the reach of the brand’s message.

Mobile apps, in particular, illustrate one of the most rapid changes in consumer habits and as a result, enterprises have diverted a portion of their marketing investment towards mobile apps in the last few years, although not with the return on investments they expected (eCommerce/Retail, Business and Technology applications retain only 23% of their users after 90 days<sup>1</sup>). Even if consumers spend 50% of their digital media time on smartphone apps, 51% of them still do not download any apps in a month<sup>2</sup>; they usually spend the time in popular applications they already have (Facebook and Google have 8 of the top 10 most used apps).

Among all of these channels, however, there is one that is favored by enterprises globally because of its ubiquity and responsiveness: SMS mobile messaging. Today, SMS remains the world’s largest messaging platform with 4 billion monthly active users (MAU) out of the 5 billion unique mobile subscribers. SMS reaches 71% of the world’s population.<sup>3</sup>

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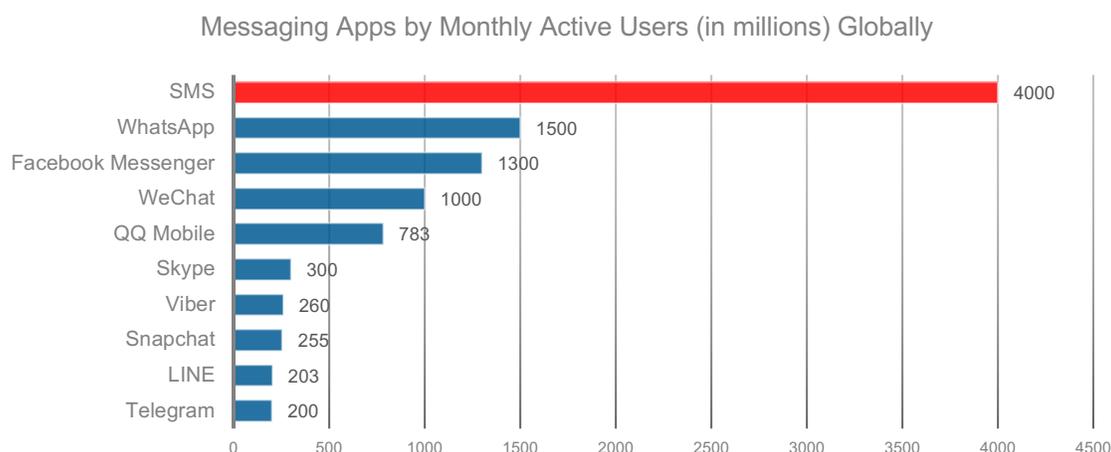


Figure 1 – SMS: The Largest Global Messaging Platform – Source: GSMA, 1Q2018

### Brands Love SMS but Yearn for More

Despite the text-only nature of SMS and its limitation of 160 characters, brands are using SMS today for marketing campaigns and other use cases for several reasons:

- SMS is ubiquitous — SMS can reach anyone who has a mobile number (sometimes, even landlines are text-enabled)
- SMS is a clean channel — the communication between brand and consumer is private and direct, and there are no distractions in the user experience.
- SMS is regulated — as much as the telephony industry is in order to protect consumers and marketers alike. Regulations are in place to deter spamming via text messaging.

Because of these reasons, consumers also favor SMS:

- 95% of customers who have opted into a brand's text messaging program open and read the brand's messages within 3 minutes<sup>4</sup>
- It takes 90 minutes for the average person to respond to an email. It takes 90 seconds for the average person to respond to a text message<sup>5</sup>
- Texts have a 209% higher response rate than phone calls, and responses through text are 295% more likely to be "yes" responses than phone calls<sup>6</sup>
- When given the choice between verifying information via text message or phone, almost 90% of customers choose text<sup>7</sup>

Therefore, it is not a surprise that, although personal SMS messaging declined after the arrival of the over-the-top (OTT) messaging and social applications (iMessage, WhatsApp, Facebook Messenger, Snapchat, etc.), business messaging over SMS—also known as A2P (application to person) messaging—has continued to increase and represented a USD \$60 billion market globally in 2017.<sup>8</sup>

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However, in reality SMS technology has become *démodé* and brands are put off by the text-only, 160-character limitation. New social messaging applications have been offering multimedia capabilities for years, and consumers are accustomed to receiving images, videos, and sound within their messaging experience. This demand for content richness is steering some enterprises to launch dedicated campaigns in media-rich channels (web ads, Facebook, Instagram, Snapchat, etc.), even if they are not clean channels (subject to harvest and sale of metadata to potential competitors). Additionally, OTT messaging applications, having become aware of the potential of A2P messaging, are already implementing plans to get a slice of the A2P messaging revenue pie.

But there is a way for enterprises to obtain the media richness they desire in their customer experiences with added interactivity and enhanced analytics while preserving the clean channel between consumer and brand.

RCS, or Rich Communication Services, is the GSMA standard that upgrades the SMS mobile messaging experience with full multimedia capabilities on a mobile messaging channel that is secure and private and provides a clean digital billboard for the brands.

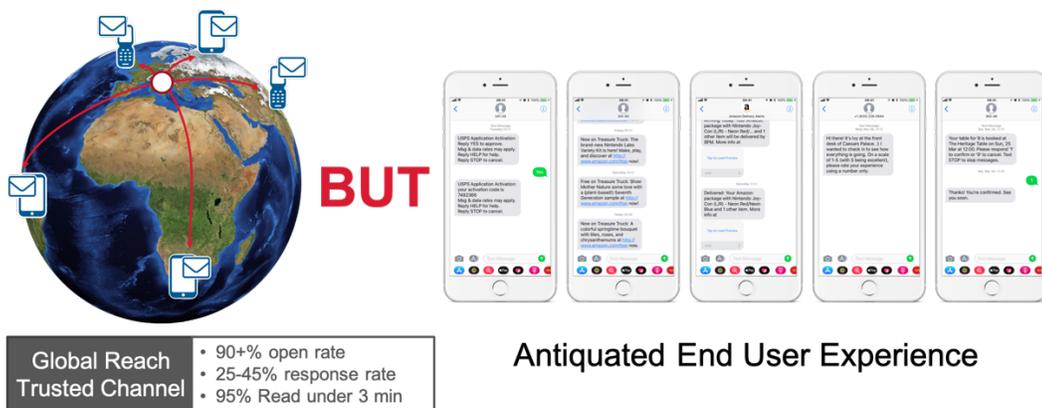


Figure 2 – The SMS Tradeoff for Marketers

## RCS Messaging and the A2P/P2A Conundrum

A joint effort by the GSMA, leading MNOs, suppliers of telecommunications equipment, and application developers led to the creation of the RCS standard, bringing forward a successor to SMS which enhanced the user experience with multimedia capabilities including:

- Audio, images, and video
- Messaging conversations
- Group chat
- Sent, delivered, and read notifications
- Rich cards and rich card carousels
- Buttons for predefined responses or to invoke specific services

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- Capability discovery to let brands adapt the experience to the limitations of the consumer device
- Chatbots

With the standardization of the Universal Profile, RCS guarantees a uniform experience across devices and networks. It also includes fallback to SMS and MMS, providing a universal messaging ecosystem in which it is possible to send a message to any user as long as they have a mobile phone number. All these factors will help RCS attain the critical mass of users, millions of eyeballs all focused on a screen that can now become a digital billboard that brands will want to target and mobile network operators (MNO) can monetize.

RCS is no longer a look into the future; it is already here. According to the GSMA, as of the third quarter of 2018, 62 operators in 45 countries had deployed RCS services to 167 million subscribers, and the expectation is that the number of subscribers will surpass 1.2 billion by 2020.<sup>9</sup> RCS has the support of the leading mobile OS provider (Android) and the leading mobile phone manufacturers (e.g., Samsung), who are including RCS compatible messaging clients (e.g., Android Messages, Samsung Messages) in their devices. Apple is still not providing native RCS support on iOS for the iPhone, but it is expected that RCS will be implemented as a fallback mechanism in iMessage (similar to SMS and MMS) as soon as RCS is available in the major MNOs. In the meantime, vendors such as Mavenir provide downloadable clients for iOS and client SDKs to add RCS capabilities to existing iOS applications.

In the markets where RCS has already been deployed commercially or in commercial trials, RCS is already providing results. For example, in a recent RCS Business Messaging Lab hosted by GSMA during the Mobile World Congress Americas in 2018, several brands presented their early results comparing RCS campaigns to SMS:

- **Subway** has already seen a 146% lift in usage and 50-60% increase in conversion rate on their RCS A2P campaigns
- **Express** confirmed high engagement and loyalty engagements on their RCS A2P campaign with 60% of consumers preferring it over the SMS experience, and their lowest ever opt-out rate in a campaign.
- **Vodafone** showed uplifts in click-through rate of 700% for external campaigns and 1300% for internal campaigns and an 800% uplift in activation rates

These promising results are driving brands to demand that MNOs launch RCS Business Messaging in their markets. However, because of the focus in converting A2P campaigns from SMS to RCS, until RCS is fully deployed in the mobile installed base, brands will find reach to be a challenge.

### The Challenges of Focusing on A2P RCS

SMS is a regulated telecommunications service and Application-to-Person (A2P) messaging is brand initiated. For this reason, A2P requires an opt-in model in which consumers accept by entering their mobile number into a registry to receive communications from the brand. The fact that SMS is ubiquitous ensures brands are able to reach any subscriber in their registry, since every mobile number supports SMS messaging.

However, when brands convert their A2P campaigns from SMS to RCS, they find that the number of RCS-enabled users in their subscription list represents a very small fraction (sometimes 1%) of their SMS addressable market. And to further complicate matters, they have to deal with subscribers connected to different mobile network operators, which requires them to launch their RCS A2P campaigns in different RCS Messaging-as-a-

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Platform implementations. From the practical point of view, instead of adding one RCS channel, they potentially need to add an RCS channel for each MNO operating in the territory they want to target. This increases their costs and limits their return on investment.

This problem will eventually disappear once RCS is globally deployed, however, that will still take a number of years to achieve. There is a workaround, though; instead of having the brand reach the consumer, we can change the model to let the consumer reach the brand. Enter Person-to-Application messaging.

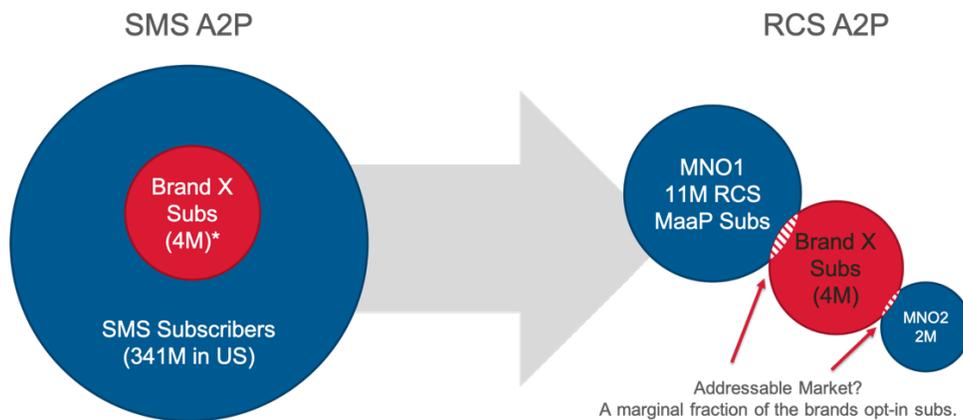


Figure 3 – Limitations on RCS reach during the transitional period (US 3Q18 example)

### Turning the Tide from A2P to P2A

Person-to-Application (P2A) messaging is a conversational business messaging engagement that is initiated by the consumer (thus, opt-in is implicit). Typical P2A engagements are chatbots or live chats and cover multiple use cases (reservations, appointments handling, information requests, etc.).

P2A is not an RCS innovation but represents a significant improvement over the SMS experience not only with regards to the global user experience but also the brand discovery mechanism.

RCS clients include a dedicated interface (usually a tab) to search for chatbots or brands using brand names or categories (e.g. food, dance lessons, etc.). This makes brands available to the entire RCS installed base, positioning them just one click away from a business interaction that could lead to a potential sale. Brands can also leverage the RCS search capabilities (just like they leverage web browsers to drive users to their websites) or other existing marketing channels to drive customer awareness to their brand (press, radio or TV ads, web banners, etc.).

RCS P2A is superior to the SMS P2A experience. With SMS based P2A messaging, it is not possible to find a brand. Consumers need to know the short code (or the long code) of the brand to be able to initiate a conversation. With RCS, the users just need to start a search from the messaging application tab to find relevant brands in their location that can match their needs.

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Finally, considering the top 3 A2P monetization issues are all fraud related (SIM farms, grey routes and spam) and cost an estimated \$1.5 billion per annum globally,<sup>10</sup> investing on developing a P2A messaging strategy that relies on brand and bot vetting to guarantee a secure and clean communication between the consumer and the brand makes a lot of sense.

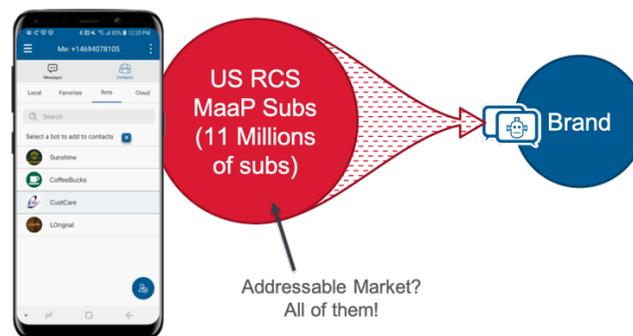


Figure 4 – Total reach with RCS P2A (US 3Q18 example)

## The Dawning of the Age of the Chatbot

As we have already mentioned earlier, reach is key for brands, but once the connection between the brand and the consumer has been made, a fast and responsive bidirectional communication needs to be established. This applies also to mobile messaging.

Businesses have always seen the potential of embracing technological advancements. With the arrival of the telephone, they started to provide a phone number to let customers reach them. Later, enterprises realized that they could centralize customer service using the telephone and reduce the cost of having physical branches in smaller markets, and the call center was born. But that was still costly, so technology figured out a way to pre-screen incoming calls automatically with pre-recorded messages and touch-tone options, and thus the auto-attendant was created.

In a similar fashion, message-based customer engagements have had a similar evolution. Businesses started with chat options in their websites where customers could converse with real people in a contact center (the evolved version of the call center that included data applications). But contact centers are also expensive, and many of the queries their agents were receiving were similar and repetitive in nature—for example, password reset requests. This led to enterprises looking at technology to provide automation solutions. Thus, the chatbot was born.

A chatbot, in essence, is a piece of software that interacts with users to provide predefined responses to their inquiries and sometimes collects specific personal or service-related information. Chatbots can vary in complexity, ranging from very simple bots based on keyword detection that run over predefined scripts and decision trees (like a text version of an auto-attendant or a *Choose Your Own Adventure* book), to very sophisticated entities incorporating artificial intelligence and natural language processing capabilities that can emulate the responses of a human and automatically escalate a chat session to a human agent when needed.

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Chatbots have huge potential for enterprises in the following areas:

- Customer service improvements — eliminating the need for those annoying “all our agents are busy at the moment, please stay on the line” messages, accelerating responses, and easily locating answers to frequently asked questions at a minimal cost. And not to forget chatbots provide service 24 hours a day, 7 days a week without the need for breaks!
- Online shopping friction reduction — for example, to provide a guided shopping experience, facilitate product information, clarify available options, displaying product availability at physical stores, as well as collect user data, credit card information, delivery options, process payments, and, finally, confirm the order. The consumer does not need to go through different departments and repeat the same query to multiple people.
- Communications personalization — chatbots can specifically answer the users’ questions instead of providing a long list of information like websites do.
- Response rate enhancements — if you wait 5 minutes to respond after a lead first reaches out, there is a 10x decrease in your odds of getting in touch with that lead.<sup>11</sup> Chatbots respond to 100% of the user messages immediately and can convert more users into buyers.
- Automation of repetitive tasks — users do not like browsing long FAQ documents online when they are looking for a quick answer such as business hours, return policy, delivery options, bill payments, making a reservation, subscribing to a mailing list, etc. A chatbot can reduce the number of calls to the contact center for these repetitive questions. For example, for a simple password reset, a chatbot can provide a fast response with a link to the password reset website with a cost of cents of a dollar, whereas a call to a human agent for the same purpose can cost tens of dollars.

Enterprises have seen the potential of chatbots and, as a result, multiple chatbot platforms have flourished in the market (Microsoft Bot Framework, IBM Watson, Amazon Lex, Google Dialogflow, Converse AI, Octane AI, Botsify, etc.) that provide connectivity to different messaging communities (Facebook Messenger, Slack, Amazon Alexa, etc.) and integrate with different web services (WordPress, Salesforce, Shopify, etc.).

A recent survey<sup>12</sup> shows that 15% of users have used chatbots to communicate with businesses in the past 12 months, and that users prefer chatbots over apps when communicating with companies. However, for those of us who have tried to use online chat on our mobile web browser, the mobile user experience still leaves much to be desired (multitasking between browser tabs is not convenient, there is a risk of accidentally killing the tab and losing the chat session, there are no notifications if the browser is running in the background, and many more inconveniences).

Fortunately, chatbots interact using messaging procedures and, from the telecommunications point of view, messaging with a chatbot is no different from messaging with a person. However, for the consumer, messaging with the chatbot on a mobile messaging application is much more convenient than doing it from a web browser’s tab (proper multitasking, message notifications, persistent conversations, etc.). To facilitate these interactions, the Messaging-as-a-Platform (MaaP) layer of RCS Business Messaging (RBM) provides REST-based APIs to connect chatbots to the mobile network and allow consumers to easily discover the brands. But this means that enterprises need to adapt—and in some cases re-create—their existing chatbots to use these RCS APIs.

## Chatbots in RCS Business Messaging

With RCS, for the first time, mobile network operators can offer the same capabilities that enterprises have been using on their websites and social networks (a bot store, bot discovery, bot search capability, etc.) but with the ubiquity of the mobile messaging ecosystem. And because RCS is a seamless transition for users (similar to the move from text only to HTML enriched email), the expectation is that the current successful open, read, click-through, and engagement rates of SMS will transfer to RCS.

To foster an open ecosystem and facilitate adoption, the GSMA defined the Messaging as a Platform (MaaP) mediation layer, which allows communication between businesses (brands), developers, 3<sup>rd</sup> party enablers, and customers, and abstracts the network complexity by means of simple APIs. In particular, the GSMA Northbound interface leverages REST methods to provide a chatbot-ready API that lowers friction for chatbot developers, reducing the development and test efforts and providing a baseline for new chatbot platform initiatives. The choice of REST is not arbitrary, as web developers worldwide are already familiar with the REST methodology and there are many other web services that provide REST-based APIs to integrate functionality from multiple parties into a combined end-user experience.

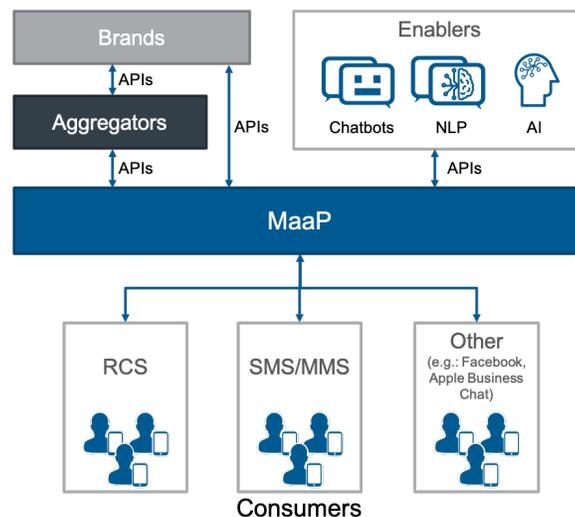
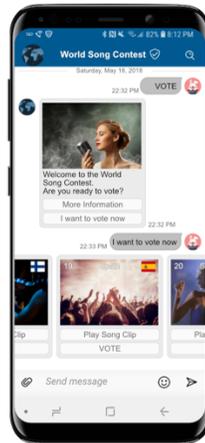


Figure 5 – RCS Messaging-as-a-Platform (MaaP) Layer

In addition to the Northbound API, RCS also leverages web technologies to enhance the end-user experience. The Universal Profile 2.0 specification introduces JSON-based rich cards and rich card carousels that group multimedia information into objects that can include text, images, audio, and video, as well as action and suggested response buttons with pre-defined responses enabling calls to other web services such as mobile payments, shopping carts, order systems, etc. Many of the web-based chatbot platforms have similar elements that can easily be adapted to work on RCS—for example, Microsoft Bot Framework also has JSON-based cards with action buttons.

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*Figure 6 – Rich Card and Rich Card Carousels within an RCS conversation*

Aware of the limitations of SMS messaging and based on the feedback from brands, aggregators, and marketing agencies, RCS Business Messaging also provides the metrics and performance indicators that brands need to measure the success of their A2P and P2A campaigns. With SMS, brands could know if a message had been delivered to the MNO network but could not know when it was delivered or read by the end user. With RCS, businesses can now know if the message has been delivered, if it has been read, and even if the user is typing back. This allows marketing professionals to better quantify the channel's Return on Investment (ROI).

In light of these advantages, we can conclude that RCS delivers a rich chatbot experience on par with the latest leading web-based chatbots with the added advantage of providing a secure and trusted channel for the brands to communicate with the end user.

Today's web-based chatbots are directly embedded into enterprise websites or offered on social applications such as Facebook Messenger, Twitter, or Slack. In many situations, the content is presented through a web browser and is subject to the scrutiny of any browser extensions installed by the users (many times unknowingly embedded in the installer of free software downloads). Sometimes, the terms and conditions of the underlying messaging platform explicitly grant permission for the service to harvest usage information to provide advertisements—after all, they are providing a free service that needs to be monetized in order to be sustainable.

As a result, the content of the conversations between brands and consumers can be leaked or harvested, sold to 3<sup>rd</sup> parties willing to offer competing services or products. Even if the contents of the conversation are confidential, the metadata can still provide valuable information to competitors. For example, if consumers talk to a certain car dealership several times in a week for a certain duration of time, it is not hard to deduce that they are intending to purchase a new vehicle, even if we cannot read the messages within the conversation. Therefore, it should not be a surprise if advertisements from a competing brand start to appear when the user navigates in other websites that use an affiliated 3<sup>rd</sup> party ad system.

With RCS, all communication happens between the brand and the end user's mobile device, through their messaging application, and the mobile network operator can ensure the metadata is not provided to other parties. Of course, enterprises will need to make sure the chatbot platform they choose provides the same level of confidentiality.

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So, if RCS can provide the same level of chatbot experience that web platforms provide today, in a clean and secure channel, what is stopping brands from offering chatbots in RCS? There are two answers. The first one is the lack of clients and networks, which is temporary, already being addressed by MNOs and device manufacturers, and will cease to be an impediment soon. The second cause is the cost of having to rebuild the brands' chatbots on RCS using the GSMA Northbound API provided by their mobile network operator.

The leading chatbot platform providers are already providing channels to leading messaging systems (Facebook Messenger, Slack, Skype, etc.), because that is critical to the omni-channel strategies of their enterprise customers. What if RCS could be another channel within those platforms?

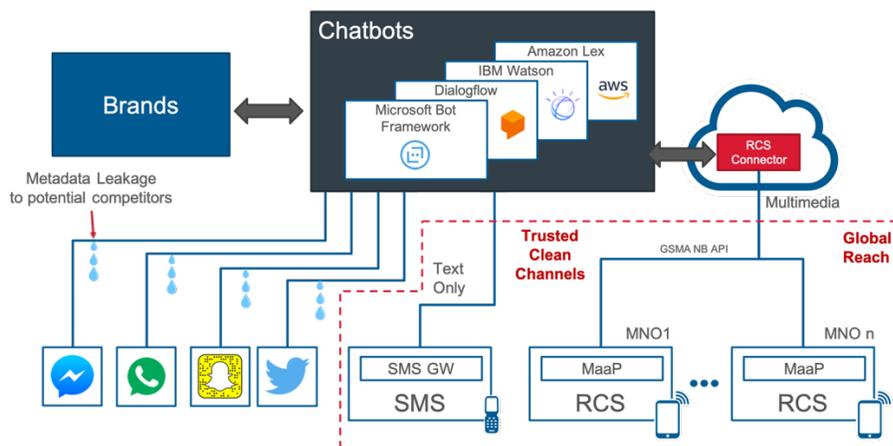


Figure 7 – Connecting the Bots to RCS

## RCS as a Channel in Bot Platforms: The Need for an RCS Connector

Even if the specifications of the RCS MaaP layer are fundamentally designed for chatbot interaction, they do not provide a definition of what a chatbot development system or framework needs to do. In fact, a MaaP implementation does not even need to include chatbot creation capabilities.

The intention is to promote an open ecosystem where any chatbot platform can connect to the RCS MaaP to offer services to RCS subscribers, thus eliminating any limitations to service adoption. Businesses have different expectations, budgets, and resources and will choose a chatbot framework based on their own needs. Some businesses will want a simple script-driven bot to answer FAQs based on an open source solution deployed within their own web hosting, whereas others will want an artificial intelligence-driven bot that integrates with their back-office ticketing and order processing system to provide conversational commerce capabilities.

The goal of RCS is to accommodate all the use cases, but this openness has created a gap. Today, a company investing in resources to enable a chatbot use case wants to maximize its reach. However, when considering the option to reach users via RCS, brands are forced to choose from a limited number of messaging companies that have integrated their chatbot creation environment with RCS. Alternatively, they need to hire a developer or firm that can build chatbots using chosen framework—such as IBM Watson or Microsoft Bot Framework and then integrate it with RCS by building a connector web service—usually cloud hosted—that mediates between the

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framework and the RCS MaaP. Such an endeavor is costly since it represents an extra step in the process to connect brands to their customers.

However, RCS provides a standardized MaaP Northbound interface for chat bot platforms, so why not have a single standards-compliant connector offered by the chatbot platforms that facilitates the enablement of RCS connectivity for their bots?

Most bot platforms already provide connectors for multiple channels. For example, Microsoft's Bot Framework provides channels to connect bots to Cortana, Skype, Skype for Business, Direct Line, Microsoft Teams, email, GroupMe, Facebook, Kik, Slack and Telegram, among others.

To include RCS as a channel, a connector needs to be built to provide the following functionality:

- Authentication and registration of the bot in the RCS MaaP
- Bot search and discovery relay mechanisms
- Adaptation and conversion of media objects (rich cards, carousels, etc.) as well as events (delivery, read, and is-typing notifications)

RCS provides a standard REST-based interface and JSON-based objects (rich cards and carousels). Building such a connector should not be a difficult task, and because all mobile devices use RCS standard clients, this work could be done once and reused massively. So why is RCS not an option already?

The answer lies on the nature of the channels. Services such as Skype, Facebook, Slack, or Telegram represent global networks, which means that building a connector for those networks allows the bot to reach any user within them, worldwide. The bot platform provider can build the connector once and make it available to the entire developer community as a value add for their bot service.

With RCS, however, there is not a single channel. Each mobile network operator (MNO) will usually have their own MaaP or run a dedicated instance within a multi-tenant MaaP service. This means there are as many RCS connectors as MNO networks, and these may be in different levels of standards compliance. For example, MNO1 can be on Universal Profile 2.2 while MNO2 is still on UP 1.0. These discrepancies introduce complexity on the handling of media types, events, and notifications.

At Mavenir, we are convinced it does not have to be this way. We believe it is still possible to minimize the integration efforts and leverage a common RCS connector to the leading chatbot platforms by choosing the right RCS Business Messaging partner.

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## Connecting the Bots: Mavenir's RCS Business Messaging Solution

Mavenir can help MNOs and bot platform providers to eliminate the complexity of enabling the RCS channel.

Mavenir's RCS Business Messaging Solution is a cloud-hosted RCS MaaP solution that allows MNOs to rapidly offer RCS services to brands, developers, and aggregators in their markets.

Mavenir's RCS Cloud connects to the operator's core network, integrating with their IMS, SMS, and MMS components, as well as the provisioning, OSS, lawful interception, and billing systems. It provides standards-based Northbound and Southbound interfaces to connect to chatbots and other MaaP providers and complies with the latest Universal Profile specifications. It also provides connectivity with other MNOs by means of industry leading RCS hubs as well as IMS-compliant network-to-network interconnection (NNI).

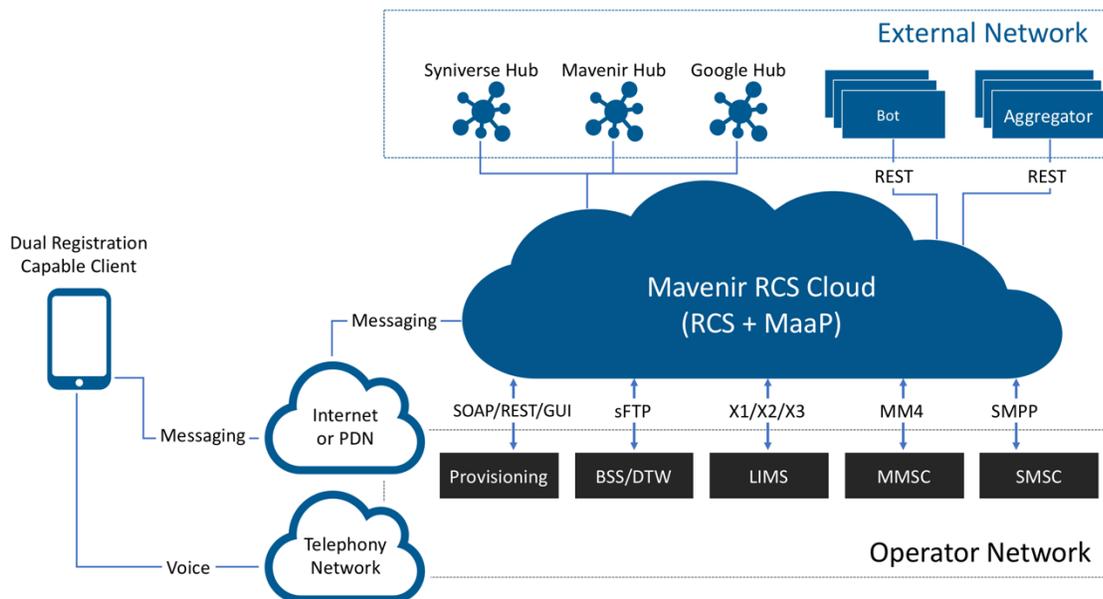


Figure 8 – Example of Mavenir MaaP integrating into MNO network

Mavenir's RCS Business Messaging solution provides the following benefits to the MNOs:

- Fast time to market
- Low initial investment
- MNO control of user-brand relationship
- MNO control of E2E security
- Brand-Consumer clear channel
- Fast availability of new features and compliance with the latest Universal Profile specifications
- MNO customizations and differentiation

## Connecting the Bots

- Regulatory compliance
- Open ecosystem of partners (aggregators, developers, and applications) pre-integrated with the MaaP
- Free P2P messaging

Because it is a multitenant cloud solution, each MNO perceives the solution as their own, but all MNOs hosted in the solution have the same level of UP compliance, capabilities, and functionality. Additionally, subscribers of the MNO's tenants can exchange P2P RCS messages for free.

Mavenir's MaaP also provides global reach with data centers being added in different continents and can facilitate the simultaneous launch of RCS Business Messaging within a country by multiple MNOs, providing the consumer reach that brands are demanding and dramatically increasing the revenue potential for the MNO.

Mavenir's cloud solution consolidates the multiple RCS networks into an RCS Communications Platform-as-a-Service (CPaaS), offering a single point of entry for chatbot developers. By leveraging the Mavenir MaaP SDK, which reduces the complexity of using the GSMA Northbound API, developers can create a common RCS channel connector to connect each specific bot platform to Mavenir's RCS Business Messaging MaaP. This connector can then be reused by all enterprise bots that will be connected to the RCS subscribers hosted in Mavenir's infrastructure, providing a unified RCS inventory.

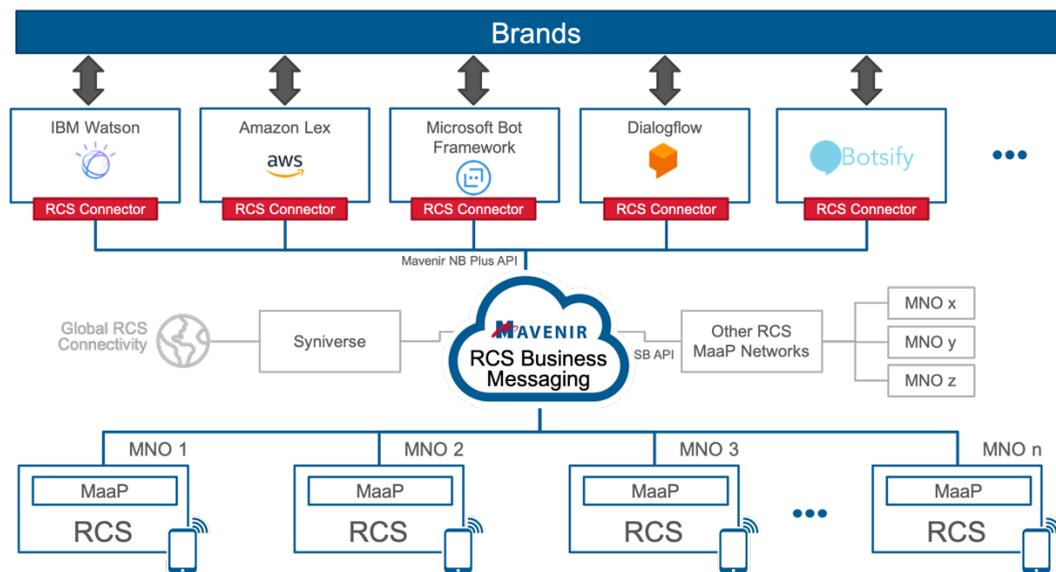


Figure 9 – Common RCS Connector to access a unified RCS inventory

Mavenir's RCS Business Messaging solution also uses the GSMA Southbound API to connect with other MaaP platforms, making their chatbots visible to the RCS users of MNOs that are not hosted in Mavenir's solution. And it is more than a MaaP layer; Mavenir's solution includes a full ecosystem that includes partners that provide additional messaging enablers by means of their own APIs. Some partners, such as Syniverse, provide global interconnectivity services and ENUM capabilities to allow the chatbots to reach any RCS subscriber in the world.

# Connecting the Bots

Mavenir's RCS Business Messaging provides the following benefits for brands and developers:

- Translation of the telecom complexities into easy to use REST APIs that IT can understand and implement
- A unified marketplace within our multitenant cloud solution with a single RCS inventory that minimizes the brand's effort to access mobile consumers
- The standards compliance and adherence to the latest Universal Profile specifications which allows leading native and over-the-top RCS clients (such as Samsung Messages and Android Messages) to work with our solution
- White label RCS clients and Client SDKs (in addition to our MaaP SDK) to allow mobile network operators to offer RCS services on devices that are still not natively enabled (such as iPhones and older Android devices)
- A sandbox to allow developers to securely test their bots and validate the user experience
- Mavenir's partner ecosystem, which provides access to 3<sup>rd</sup> party enablers to further enhance the user experience and enable conversational commerce
- Our strategic partnership with Syniverse, which delivers access to global interconnectivity, financial clearing and settlement functionality, brand and chatbot vetting mechanisms, ENUM resolution, and aggregation capabilities
- Our focus on security, with the integration of our SpamShield revenue assurance solution, which minimizes messaging fraud and facilitates the path to a clear and secure channel—a private digital billboard for the brand to interact with the consumer

## Conclusion

Brands are trying to extend their digital reach but are concerned about security, privacy, effectiveness, and confidentiality from their current experience with email and social networks. SMS has addressed their needs with a secure and clean channel with minimal spam—due to its nature as a regulated channel—but the short-text limitations makes SMS insufficient to drive their customer engagement programs further.

RCS provides a seamless evolution of mobile messaging for users and brands alike and delivers the much-awaited multimedia capabilities already delivered by other OTT ecosystems. It enables new P2A engagement models based on chatbots that allow brands to be reachable by any RCS enabled user (not just the ones registered in their opt-in lists) through the chatbot search functionality, because users explicitly opt in when starting a conversation with the brand's bot.

RCS brings new media types (such as rich cards and carousels) that provide better user interactivity and is already proving results with significant uplift in engagement and click-through rates.

For the first time, operators can offer the same capabilities that enterprises are leveraging on their websites (chatbot store, bot discovery, search capabilities) with the global reach of their mobile networks.

# Connecting the Bots

Brands are eager to adopt RCS for A2P. When it comes to P2A, some have already built chatbots for their websites using leading bot platforms, so they are not looking forward to having to rebuild their existing chatbots into a new system. Making RCS available as a channel in the leading bot platforms by means of an RCS Connector eliminates the friction from the P2A model. Additionally, it allows brands to divert resources from their mobile app efforts (which are not providing the expected results) into a new engagement channel that is secure, clean, and rich, and will become as ubiquitous and attractive as SMS (leveraging its delivery, read, and response rates) once the transition to RCS is fully complete.

Mavenir is uniquely positioned to provide the bridge between the IT world and the mobile network operators with an RCS Business Messaging solution that abstracts the complexities of the RCS and telecom components with easy to use REST APIs and SDKs that web and bot developers can understand.

Leading chatbot platforms can join our [partner ecosystem](#) to get access to our APIs and SDKs. Our experts are ready to assist their developers in the creation of those RCS connectors.

Mavenir, the global leader in mobile messaging, brings deep expertise and knowledge of mobile networks, enabling more than 50 million active RCS users and processing more than 250 million RCS messages per day in just one of our customers' networks. We are ready to enable RCS as a channel for chatbots and to meet the omni-channel needs of enterprise customers worldwide.

**For more information, visit [Mavenir.com](https://mavenir.com)**

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