BUILDING A SOCIAL CONVERSATION EXPERIENCE WITH RCS AND RCS-E

MEET THE DEMAND FOR SOCIAL COMMUNICATIONS

TECHNICAL WHITE PAPER

The demand for social communications is stronger than ever, the networks are in place, devices are smarter and more capable, and there's an ever-expanding set of applications that provide communications capabilities.

Alcatel-Lucent Advanced Communication solutions let service providers address these challenges by enabling a new conversation experience . They can reinvent communications to inspire new and more engaging conversations. Consumer and enterprise customers are captivated. Loyalty increases. Service providers gain a competitive advantage.

Alcatel-Lucent believes that Rich Communication Suite (RCS) and RCS-enhanced (RCS-e) are critical components to offer this new conversation experience and make it more social. This paper describes RCS and RCS-e and explains how Alcatel-Lucent leverages them to help our customers build successful multimedia strategies.

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WHAT ARE RCS AND RCS-E?

Both RCS and RCS-e are technical projects led by the Global System for Mobile communications Association (GSMA) that aim to bring a set of standard services to the market with a consistent user experience. RCS was developed in 2008, and RCS-e was launched early in 2011 as a simplified version of RCS for faster commercialization of services in the marketplace. While they have many aspects in common, there are some important differences.

RCS

The goal of RCS is to leverage the global interoperability and ubiquity of existing voice services and Short Message Services (SMSs) and enrich them with Internet-type features more in line with user demand. The RCS group is strong, with more than 100 members as of early 2011, including service providers, infrastructure and software vendors, and device manufacturers. Alcatel-Lucent has been very active in the group initiative to define the service vision and a set of enablers that leverage the address book as the launch pad for new conversation services:

- Rich call and video sharing
- Image and file transfer
- Instant Messaging (IM)
- Social presence: Publish rich status and receive profile updates from contacts
- Backup/restore and synchronization with the network address book (NAB)
- Service capabilities: Which contact can do what

These features have been defined over time through the four releases of RCS described in Table 1.

Table 1. Features in the RCS releases

RCS 1	RCS 2	RCS 3	RCS 4
• Enhanced address book • Content sharing • File transfer • Enhanced messaging	• Fixed access to RCS services • Multidevice environment • Central NAB for all devices)	• Social presence enhancements (location) • Messaging and content sharing services enhancements • Network value-added services (NVAS) • SMS/Multimedia Messaging Service (MMS) notification, reception and sending from PCs or other IP devices	• Converged IP messaging (CPM) • APIs • LTE • Convergent address book (CAB)

Key attributes of RCS

Social presence

A key principle of RCS is to make our interactions more frequent, easy and vivid through a very rich social presence service. Users can share their profile and receive their friends' updates, including a tagline, an avatar, a home link, their location information or more generally their willingness to communicate. While social presence is similar to social web sites, it includes many security, authentication and privacy mechanisms that make it very safe. From a business perspective, knowing what our friends are up to generates more conversations and drives service usage and revenues.

Multidevice
RCS has been designed from the start for multiple devices. This means that it can be used by subscribers with different devices and also that a subscriber can have multiple devices, for example, a mobile phone and a tablet, connected at the same time with the same account. More specifically, RCS explicitly defines mechanisms to aggregate presence information from multiple devices into a single view and enables users to choose on which devices to reply to an IM. RCS covers both native and downloadable clients on phones, PCs and tablets, and more than 30 different clients have been involved in the RCS testfests, which Alcatel-Lucent supported.

Service capability
Another critical capability of RCS is to let users discover which services they can use with their friends (service capability and associated service availability). For example, when browsing their address book, a user could see a green HD camera icon for friends who have the right device and bandwidth to use the video service. The value is twofold: first, it ensures the service will work, and second, it acts as an incentive to use enriched services because this information is available before the end user needs it.

What we have learned from RCS so far
RCS services have been trialed by many service providers in all regions, including two large nationwide field trials in France and Spain in 2010. Alcatel-Lucent was the only vendor to be involved with all service providers in these trials and has developed in-depth experience of RCS deployments.

Feedback from end users has shown these services are intuitive and users have a strong interest in Instant Messaging capabilities, mainly because IM corresponds to service already offered to them through other means. Accordingly, for them, integration with social networks is logical.

RCS has been around for a while, and although it filled a gap in terms of end-user demand, the RCS market has been slow to materialize, mainly due to its technical complexity. This is why some service providers have been pushing for a simplified version, RCS-e.

RCS-e

RCS-e was announced in February 2011 by five service providers in Europe as a version of RCS simplified to launch services in Europe quickly. The five service providers are Orange™, Vodafone, Telefónica, Telecom Italia™ and Deutsche Telekom.

RCS-e aims to provide assured services by delivering a simplified extension to voice and text, enabling subscribers to send IMs, video chat, and image/video share and transfer/exchange files in real time.

RCS-e is mostly a subset of RCS Release 2 services; however, there are some notable additions and deletions of capabilities from that release. Some key capabilities have been simplified to accelerate commercial availability of the solution; for example, key social capabilities leveraging presence are optional with RCS-e.

Key attributes of RCS-e

RCS-e provides the following capabilities in addition to existing mobile voice and messaging services:

- Chat services as IM with a twist: If the other person is there, it is regular IM. If the person is not there, the service stores the message and sends when the person in online.
- File transfer: Standalone or combined with a voice or an IM/chat session.
- Video streaming: "see what I see"

By delivering a limited subset of the RCS 2.0 specification, RCS-e aims to increase subscribers' adoption learned from SMS key success factors, thanks to the following key capabilities:

- Service activation: Allows auto-provisioning of user ID, availability of the client in the device (natively installed) and automatic configuration of the client.
- User discovery: Process to know which contacts in the address book support the services.
- Service capability: Checks at time of service execution and provides assurance that the call/service is likely to succeed.
- Delivery assurance thanks to delivery notification and store and forward capabilities.

In addition, RCS-e simplifies the introduction of these services, providing faster time-to-market. Over time, service providers will then evolve their service offerings to the richer set of full RCS services.

Benefits of RCS-e assured services

Alcatel-Lucent believes that RCS-e can be seen as a natural extension of basic mobile messaging services with a set of new services smoothly and securely introduced to improve the customer experience.

To achieve the goal of simplicity, the strategy is focused on "extending the communication stack". RCS-e has taken this one step further by including the following mechanisms to increase service assurance:

- A new user discovery process to discover which contacts in the address book support the services
- A service capability check at time of service execution to provide assurance that the call/service is likely to succeed
- Extensions to IM to support Store & Forward (S&F) mode and IM delivery notifications (IMDN)

With such assured services, there is no need to suspend one service or to bring up a new client and reestablish communications. This strategy attempts to replicate the success of SMS with a rich set of new services by providing the same mobile ubiquity and service assurance as SMS.

These capabilities are perceived as having a significant positive impact on the take rate and usage of new services. One need only consider the lessons learned from MMS, where the lack of service assurance information has been widely considered as a critical reason that MMS did not achieve expected penetration and usage rates.

Leveraging RCS-e with social communications

One of the key technical objectives of the RCS solution has been the introduction of a network-based presence server as a common standards-based network enabler. Rich information obtained from the presence server is used to enrich the address book experience.

Presence is an optional RCS-e feature; however, a service provider can decide to launch an RCS-e service, including both the RCS social presence information and/or NAB outlined in the RCS specifications, in addition to the RCS-e assured services.

This additional feature set allows a vast range of information and activities to be aggregated, exposed and shared, including:

- Reachability: Network coverage and device used to reach a contact
- Availability: Either implicit ("green/gray lamp": Online/offline, which is very close to but distinct from reachability) or explicit ("red lamp": I do not want to be disturbed)
- Service capability (static view): I have a device that supports video share. It may or may not be available for this service right now.
- The social attributes of a person (called social profile in RCS): Includes their avatar, tagline, mood, current activity and location.
- Other person or social-, service- or device-level attributes as desired

While the market is shifting to social presence, the next major evolution will be to bring the social information to the RCS-e user experience: presence will become your social network activity rather than your colored status.

Simply put, by adding presence to the assured service, RCS-e will be a first and secure step into the higher value opportunities associated with services in the social communications space.

PARTNER WITH ALCATEL-LUCENT FOR SUCCESSFUL RCS/RCS-E LAUNCH

It is clear that RCS-e significantly changes the nature of how service can be supported. While many of these changes can be seen as limiting the end-user experience of the services, there are some RCS-e strategies that can enhance the end-user experience. Therefore it is important for service providers to consider carefully the contributions of both RCS and RCS-e.

Carrier interoperability has been one of the key promises of RCS, and RCS-e does not depart from this objective. This interoperability objective encompasses two aspects: the interoperability itself (the capability of providing an end-to-end service) and the alignment of implementations, notably at the client level (related to market fragmentation).

There has also been a profound change in the manner in which individuals communicate with each other. This change has been brought about, or perhaps has led to, the rise in popularity of social networking. People use social networks as a way to communicate and share information, but not in a traditional one-to-one fashion, rather in a one-to-many fashion. Therefore, there is an inherent desire for a subscriber to evolve their carrier conversations to such a social communications experience.

Alcatel-lucent contributes to the definition of RCS and RCS-e standards and has built a consistent portfolio of products, solutions and services that support both RCS and RCS-e, provide carrier interoperability and enable social communications. This allows service providers deploying RCS and/or RCS-e to build a new social conversation experience and assures that whatever implementation they choose, it will interoperate with other deployments worldwide.

Simply put, by captivating their subscriber with an offer that allows a better user experience, embraces social communities and brings innovative ways to communicate, service providers can maintain their leadership in the new conversation experience value chain.

ACRONYMS

API	application programming interface
CAB	convergent address book
CPM	converged IP messaging
GSMA	Global System for Mobile communications Association
S&F	Store & Forward
IM	Instant Messaging
IMDN	IM delivery notifications
MMS	Multimedia Messaging System
NAB	network address book
NVAS	network value-added services
RCS	Rich Communication Suite
RCS-e	Rich Communication Suite-enhanced
SMS	Short Message Service

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