

**Rich Communication Suite Initiative – Business Initiative White Paper**

## **1. INTRODUCTION**

### **1.1 What is the Rich Communication Suite (RCS) Initiative?**

The Rich Communication Suite (RCS) Initiative is an effort of a group of like-minded industry players for the rapid adoption of mobile applications and services providing an interoperable, convergent, rich communication experience. The RCS Initiative includes network operators, network and device vendors.

The RCS Initiative is using an iterative, agile methodology to deliver a consistent feature set, implementation guidelines, example use cases as well as demonstrations around interoperable reference implementations based on profiling of existing standards and specifications. The deliverables of the RCS Initiative are intended to be provided as input to industry associations for consideration as reference specifications.

### **1.2 Why this suite of rich communication services?**

Today, consumers are experiencing the power and the promise of enriched communication. Services and applications that have introduced buddy lists showing dynamically changing status and on-line capabilities, different messaging options and possibilities of adding contents are just a few examples of this richer communication experience. Consumers may take for granted that these capabilities are available not only on a PC but also on a mobile device and that there is open communication between devices and networks. Service discovery is a keystone to boosting the usage of richer communication services. Additionally, the user experience is improved by visualizing through the Rich Communication Suite only those communication services with an end-to-end guaranty of use. A consistent set of rich communication services that the consumer knows will have interworking between devices and networks provides a clear market communication and service utilization.

With the Rich Communication Suite the operators can fulfill their customer expectations and continue to introduce ever evolving services based on what the consumer demands.

To ensure service availability in 2008, the RCS Initiative will continue to drive interoperability testing to form grounds for faster deployment of trusted rich communication services. These tests include interoperability testing between various devices, such as mobile handsets and interoperability in a multi-operator environment as well as sharing the RCS specifications with relevant industry forums.

## 2. RICH COMMUNICATION SUITE INITIATIVE

The RCS Initiative is a collaborative effort to speed up and facilitate the introduction of commercial IMS based rich communication services.

RCS initiative was established May 16, 2007 and is supported by key industry players. These include network operators (France Telecom/Orange, Telecom Italia, Telefónica, and TeliaSonera), network infrastructure vendors (Ericsson and Nokia Siemens Networks) and mobile device vendors (Nokia, Sony Ericsson and Samsung).

To speed up the introduction of commercial IP Multimedia Subsystem (IMS) services, the participants in the RCS Initiative has:

- Defined a core feature set, leveraging existing standards, and implementation guideline specifications for an interoperable IMS-based communications suite. The IMS is an important architecture for bringing these capabilities to the consumer in an interoperable way,
- Developed reference implementations of the Rich Communication Suite for commercial devices, and validate the underlying requirements and technical specifications for service interoperability,
- Conducted interoperability testing in multi-vendor environments to ensure and verify the maturity of the RCS feature set.

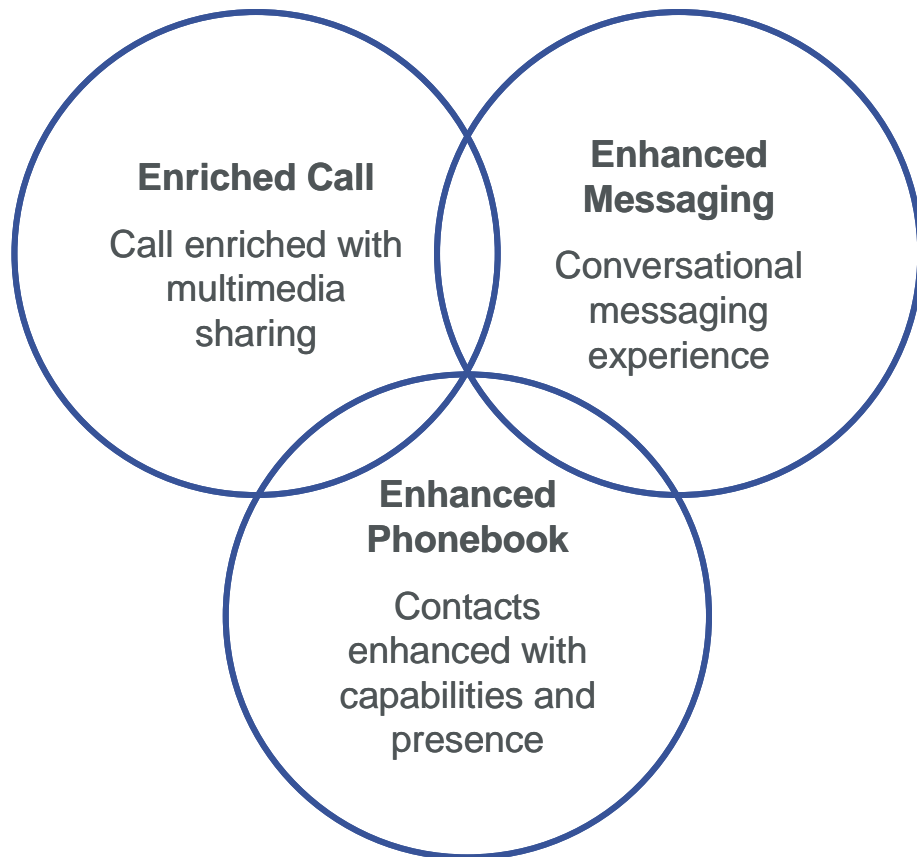
RCS Initiative does not specify user interface or device implementation but rather focuses on interconnection and interoperability requirements tied to a core feature set of rich communication capabilities.

Neither is it the intention of the RCS Initiative to create new standards; but rather to specify a core feature set that can be implemented using existing standards already defined by other fora (e.g., 3GPP, ETSI, OMA, GSMA). Should the experiences of the interoperability tests identify the need for further standardization or corrections to the existing standards, then these facts will be documented and communicated to the associated standards organizations.

The current focus for the RCS Initiative efforts is a “phase1” of work that will be completed with demonstrations in 1Q08, producing a set of interoperable rich communication services and establishing the basis for future incremental enhancements.

### 3. RCS INITIATIVE EFFORTS

The RCS Initiative work is divided into a sequence of phased efforts. The “RCS Phase 1” effort of the RCS Initiative focuses on a core feature set with the intention of realizing practical interoperability demonstrations between different devices and network infrastructures by Mobile World Congress, Barcelona, in February 2008.

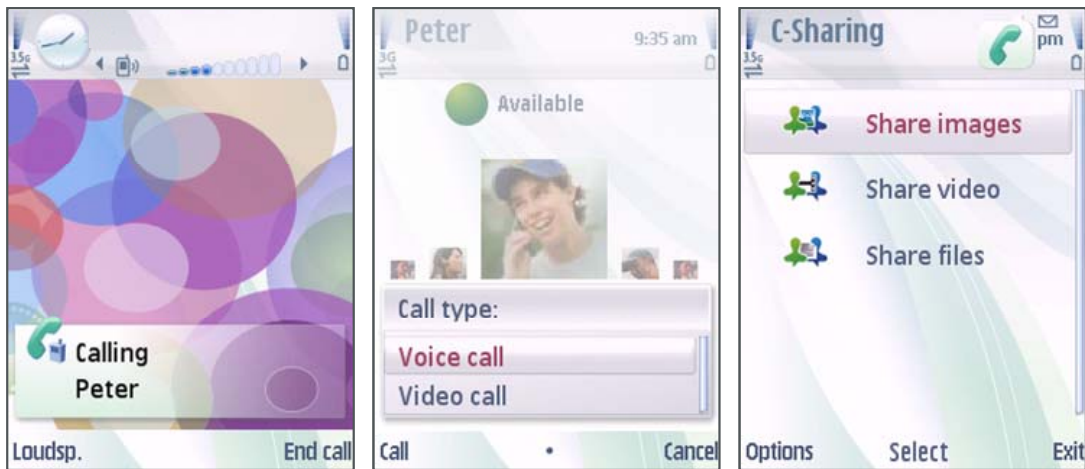


**Figure 1: Three aspects of the Rich Communication Suite**

The following areas have been identified as being part of the RCS for the initial phases:

- Enriched Call,
- Enhanced Messaging,
- Enhanced Phonebook.

The Enriched Call experience initially provides the capability to share multimedia content during a call. The forms of multimedia sharing available at a given time between the communicating parties are shown to the call participants to eliminate unpleasant errors when either party can not share chosen multimedia (e.g., when not within 3G coverage).



**Figure 2: Multimedia sharing during a call**

The Enhanced Phonebook allows “guaranteed” communication through capability enhanced contacts. In addition, Enhanced Phonebook means that communication can be initiated from the Phonebook by selecting a communication type (e.g., calling or messaging).

The Enhanced Messaging allows the possibility to view and trigger all communication (including calls, SMS, MMS, instant messaging) in a conversational view, where the user can see the communications history. The conversational view is similar to chat history in instant messaging services. Users gain value from the simplified communications experience and from the availability of the richest possible messaging services for continuing communications dialog.



**Figure 3: Enhanced Phonebook and Messaging**

RCS provides implementation guidelines for IP-communication solutions including voice, instant- and multimedia messaging, video and presence. Capability enhanced Phonebook; media sharing, group messaging and secure authentication are seen as important aspects too. NSN and Nokia are contributing to RCS initiative by planning interoperable services between mobile devices and PC terminals, across the different access networks, providing also selected set of supplementary services and backwards compatibility with legacy services such as SMS and voice.

### **3.1 Interoperability challenges**

The current focus of the RCS initiative is to overcome some of the existing obstacles to reaching these future services. Currently, standards are being developed in different fora; IETF, 3GPP and ETSI/TISPAN while some IMS based services are standardized in OMA. However, these standards are covering a very broad range of services and with great latitude in what functions need to be included in each; which will lead to different combinations of services and functionality.

By allowing for a common, well-defined set of features, based on profiling of the available standards, which is agreed upon by device manufacturers, infrastructure vendors and operators, a common denominator of interoperability can be achieved with a common feature set, providing an engaging solution for end-users and thus driving service up-take. Additionally, the feature set allows for seamless interworking with existing services but also provides a bridge to allow users to upgrade to richer services and forms of communication.

### **3.2 RCS services**

RCS services are built using a set of standardized features that use the IMS architecture to enable service integration that provides a smooth user experience and interoperability between service providers. RCS services can be used both in mobile and fixed network environments, and are interoperable between these two network environments. RCS gives the possibility to create trusted connection between users and network environments.

The presence service (OMA SIMPLE Presence) plays a key role in RCS. The discovery of the rich communication capability is the key enabler to increase the usage of these new services. Publication of the end-user's current communication capabilities guarantees service completion can be realized for these new communication services.

In the "RCS Phase 1" feature set, presence information is used to communicate not only the communication capabilities, but also personalized contact features including a photo, availability and status text.

Presence can be conveniently shown in several ways: in the Phonebook and in places where services are launched. User feedback on presence services has been very positive.

In addition to presence services, RCS includes a set of common industry standard communication services that, taken together, form a comprehensive and innovative user experience. The additional communications services comprise Multimedia Messaging, Chat, File Transfer, Video Share and Image Share.

<b>RCS Service</b>	<b>Specification Owner</b>
Presence	OMA PAG
Service Capability distribution/discovery	OMA PAG
Multimedia Messaging	OMA IM
Chat	OMA IM
File Transfer	OMA IM
Video Share	GSMA
Image Share	GSMA

**Table 1: Source standards for each of the RCS services**

RCS also includes several other services such as the feature to centrally back-up (and restore) the contacts in the local Phonebook to a safe network repository; minimizing the impact of lost, broken or stolen devices. There is also the feature to access network-based directories and search and retrieve contacts to the local Phonebook on the device.

After a user has established a trusted communication connection with another user, the presence service enables them to see what services (communication capabilities) each other has available. The 3G Video Calls, Multimedia Messaging, Chat and File Transfer services are examples of possible communication capabilities for a given user. Service attributes for Video Share and Image Share are included as part of the voice call set up. The service profiles enable integration of services that give users a smooth and seamless service experience.

Existing services, including video, voice, MMS and SMS, as well as a variety of future services can be integrated into RCS. In addition, as new services are added or when users upgrade their devices, the new service capabilities can be “published” to users via the presence service.

The RCS Enhanced Phonebook allows a number of useful capabilities to aid communication. Contact information is no longer restricted to just the ones stored on the device. The user can also search and retrieve contacts from the mobile network directory, or other fixed network directories (e.g., white pages or yellow pages) or even a service specific directory (e.g., gaming service).

In addition, the RCS Enhanced Phonebook can provide a quick summary of communication with each of your contacts. The detailed view of an individual contact in the Phonebook will reveal the complete profile of that contact, including their presence and most recent communications capabilities. The communications capabilities information provides an important clue to how that contact can be reached. Communication with any contact is as easy as identifying them in the RCS Enhanced Phonebook and then selecting the wanted communication type.

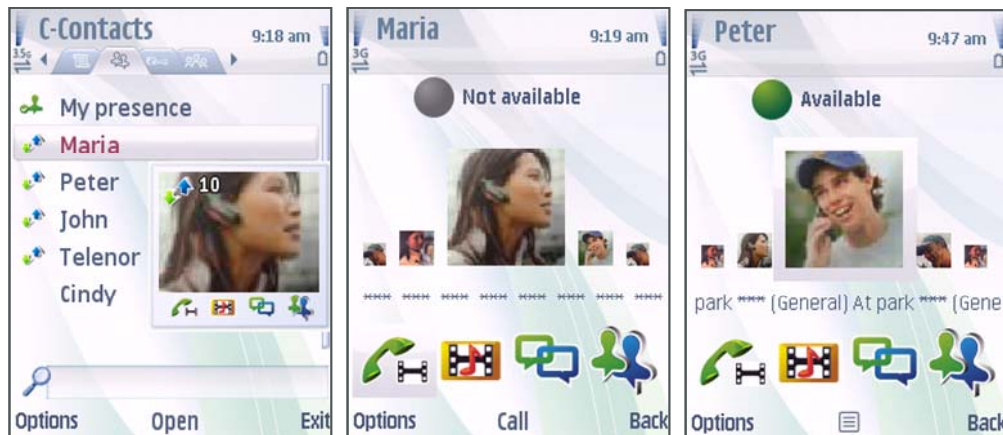


Figure 4: A possible user experience for the RCS Enhanced Phonebook

#### 4. RCS CLIENTS

Availability of RCS Clients is a critical success factor for the RCS Initiative. The promise of IMS is to give standardized features and enablers as well as handset platforms for innovating new services and applications. To maximize innovation it is important that the device platform is open for 3rd party client development. This can be solved with open device operating systems like Symbian S60/UIQ or environments providing Java (JSR 281) runtime. The openness gives a shorter development time which has previously been one of the drawbacks with telecom standardization.

Another important reason for open client development is the iterative nature of the RCS Initiative. This means that not all handsets need support all the common feature set. It also means that new RCS Clients can be developed and launched independently of each other. Since the RCS Clients are launched independently and without co-ordination, interoperability testing is up to the developer of a particular RCS Client.

The open handset platforms and the possibility for diverse set of RCS Clients follow a similar innovation approach as is widely used on the internet today. The differentiator is mainly that the RCS Initiative is built of standardized, interoperable components.

#### 5. BUSINESS RATIONALE OF THE RICH COMMUNICATION SUITE

From the operator perspective, the business rationale for the RCS is based on how it provides a common feature for addressing multiple customer requirements and how it enables the operator to attract new subscriptions and increased usage of communication services.

- The RCS increases the attractiveness of operator communication service offering by integrating presence and capability information and other new communication services. Capability information increases the usage of communication services by informing the user of the recipient's supported communication methods. Exposing service capabilities also gives the operators the flexibility to gradually deploy communication services at their own pace and means to advertise the new services to the customers,

- Today the user needs to know which messaging platform their friends use (MSN, Skype etc.) and connect to them with the user credentials (e.g., name email) used by that application. The RCS Initiative enables messaging just based on phone number information, which is already stored on the users Phonebook and makes connecting to friends easy no matter which operators these friends have a subscription with,
- The RCS strengthens the existing operator business model by answering the customer demand for personalization and self-expression through new means of communication. This enables the operator to maintain ARPU levels and subscriber loyalty by introducing a better service experience for the same price,
- Mobile advertising in instant messaging services and with conversational messaging user experience could possibly become a mechanism for new revenue source for operators,
- The RCS allows sustaining messaging pricing plans. If all messaging goes to internet based services (e.g., email or IM such as Skype, MSN, Google Talk) all messaging revenues are generated by external service providers. This would not allow for messaging specific pricing, but all messaging would be part of a general data plan,
- The RCS further differentiates the operator on multimedia services compared to, for example, internet service providers and so leverages and democratizes usage of IM and multimedia sharing,
- The RCS also improves the messaging user experience over GSM/3G through increased interoperability between operators. The increased availability of rich messaging services has not happened as widely and as quickly as for SMS,
- The RCS gives the possibility to monetize the usage of PC communication by integration to the mobile network environment. The scope of the RCS Initiative includes by mobile-to-mobile and mobile-to-fixed network connections.

## 6. IN SUMMARY

The services defined by the RCS Initiative add a rich communication services feature set to existing mobile services, bringing more value for users, device manufacturers, client developers, and network providers. Interoperability is vital for services take-up. Without services that work across devices and networks, users will have little incentive to use these new services. The Rich Communication Suite (RCS) Initiative is a collaborative effort to speed up and facilitate the introduction of commercial IMS based communication services. Commercial interoperability across vendors and operators is targeted to be achieved through this initiative. The RCS Initiative has defined a “RCS Phase 1” core feature set and has tested interoperability across multiple device manufacturers and infrastructure providers. To ensure services availability in 2008, the RCS Initiative will continue to drive testing and interoperability in a multi-operator environment, as well as sharing the RCS specifications with relevant industry forums. This will establish a basis for future development in a phased and structured manner, ensuring a good level of interoperability.

## 7. FOR FURTHER INFORMATION

For further information about the RCS Initiative, contact:

<b>Organization</b>	<b>Name</b>	<b>Telephone</b>	<b>Email</b>
Orange	Philippe Streiff	+33 608 329 188	philippe.streiff@orange-ftgroup.com
Telecom Italia	Antonella Napolitano	+390 636 888 799	antonia.napolitano@telecomitalia.it
Telefónica	Gonzalo Gómez-Acebo	+34 680 071 138	gonzalo.gomez-acebodennes@telefonica.es
TeliaSonera	Sami Ala-Luukko	+358 405 020 880	sami.ala-luukko@teliasonera.com
Nokia	Antti Forstadius	+358 503 667 590	antti.forstadius@nokia.com
Sony Ericsson	Daniel Lönnblad	+46 46 369 448	daniel.lonnblad@sonyericsson.com
Ericsson	Vladimir Durovich	+46 702 672 105	vladimir.durovic@ericsson.com
Nokia Siemens Networks	Christoph Aktas	+498 963 675 955	christoph.aktas@nsn.com