RCS-e v1.2 joyn Hot Fixes
User Experience Guidance Document

Version 1.2, July 2012

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1. Summary

This document provides guidance on OEM implementation of RCS-e and aims to document and communicate MNO expectations around the implementation of user experience-related aspects of RCS-e.

This particular review of the document reacts to the evolution of user needs registered during the lifespan of RCS-e and is based on the experience gathered from the first RCS-e implementation.

This version reflects the functionality defined in RCS-e UNI specification v1.2.2 , the joyn Hot Fixes functionality defined in July 2012 and on joyn Hot Fixes - Additions to Clarifications technical implementation guidelines v2.2.

Please note: the acronym RCS-e is not consumer-facing. As this document is focused on the user experience, raising the brand awareness of 'joyn' and encouraging its adoption, the document refers to the joyn brand name rather than RCS-e in all appropriate instances.

Key to recommendations

As a quick reference guide, recommendations made throughout this document are indicated by a colour bar showing whether they are MANDATORY, Highly Recommended or suggested UX (User Experience) requirements.

- UX Mandatory requirements (MANDATORY)
- UX Highly Recommended requirements (Highly Recommended)
- UX Nice to have requirements (suggested)

Please note: All depictions of screen layouts are examples only and not intended to be definitive.

1.1 Summary of priorities, in order of importance

UX Mandatory requirements		
UX Section #	**Requirements**	**Short description**
Digi-Guide	Iconography	The correct iconography must be used throughout the service.
7.12	RCS-e Chat application	A joyn Chat application should be provided to easily access the Chat sessions.
7.4	No joyn service indicator in status bar	There must be no always-on joyn icon in the status bar besides notifications.
7.5	Idle/locked screen	Incoming joyn messages and File Transfer notifications should be visible on the idle screen similarly to SMS.
7.6	RCS-e capable contact list	Contacts registered on joyn must be marked with a joyn icon.
7.7	RCS-e contact detail page	The contact card must provide easy access to the joyn suite of services through the correct icons.
7.9	RCS-e alert notifications	Incoming messages and File Transfer notifications must be alerted through the notification bar.
7.10 and 10.3	RCS-e call screen	Video Share and File Transfer must be accessible straight from the call screen.
8.5	RCS-e Chat message status	Within a Chat session, the different states of delivery must be followed
8.6	Group Chat	Group Chat shall be supported by the joyn Chat application
8.9	Emoticons	The list of emoticons provided in the UX guidelines must be supported.
New 9.7	Resize pop-up for large picture transfer	For large picture, a resize must be proposed.
New 8.6.2.2	No online/offline indication within Chat thread	There must be no online or offline indication within a Chat.
Appendix 1	Language labelling	The labels for the different services and actions must follow the GSMA guidelines: (to be provided by GSMA).

UX Highly Recommended requirements

UX Section #	Requirements	Short description
New	joyn icon on homescreen	The joyn Chat application should be available from the homescreen.
7.7	RCS-e services within activities log	The joyn communications should be included in the native communication logs.
7.11	RCS-e services prioritisation	The joyn services should be prioritised over other third party services.
7.13	RCS-e service in native sharing list	The joyn File Transfer should be made available in the list of apps that support sharing.
6.3	Blocking/Unblocking RCS-e service principles	The capability to block RCS-e services on an individual contact basis should be provided.
6.4	Touch Points to Block and Unblock RCS-e services	Easy access to blocking contacts should be provided.
6.5	Group Chat for contacts with blocked RCS-e services	The list of blocked contacts should be easily accessible.
6.6	RCS-e services for contacts with blocked RCS-e services	It should always be possible to launch a joyn communication with a contact with blocked RCS-e services.
8.4	Multiple Chat Sessions	Multiple simultaneous Chat sessions should be easily accessible.
8.6	Group Chat	Group Chat permanent experience supported by RCS-e 1.2 is described.
8.7	In/out of coverage Chat experience	If the network does not support Store & Forward, 1-to-1 Chat capability should show as disabled until the correct SIP capabilities are received.
8.8	Deleting messages and Chat sessions	It should be possible to delete a single Chat message and/or an entire thread.
9.4	File Transfer user interaction and presentation	RCS-e File Transfer should be offered for all share touch points provided natively by the device.
9.5	File Transfer notifications	File Transfer issues such as file size and, storage must be processed following OEM standards for notifications.

UX Highly Recommended requirements (continued)

UX Section #	Requirements	Short description
9.6	RCS-e File Transfer in/out of network coverage	If during the File Transfer the sender or receiver goes out of coverage, the transfer automatically stops and both parties receive an error notification with the retry option for the sender.
11.3	RCS-e Settings - management menu/options	Within the standard OEM device settings a specific RCS-e settings menu item should be provided to offer central setting parameters to the user.
12.3	Automatic service deactivation/suspension when on roaming	The service should be deactivated by default while roaming.
12.4	RCS-e service while on roaming	If RCS-e is disabled while roaming no RCS-e capabilities for File Transfer should be shown.

UX Nice to have requirements

UX Section #	Requirements	Short description
4.3	RCS-e presented on the package (the device box) itself	The package shall have joyn branding.
4.4	RCS-e leaflet inside the device package	A leaflet about joyn shall be provided.
4.5	RCS-e as part of the complementary device manual	The device manual should contain some information about joyn.
4.6	RCS-e joyn branding present on the device	A small joyn icon could be part of the branding of the physical device..
5.3	Welcome Video	A welcome video could be provided.
5.4	Welcome Wizard	A welcome wizard could be provided.
5.5	User Consent	The presentation of the consent message must be clear to the user and not hidden within the notification tray for action, but be presented 'on top' of the screen.
5.7	Removal of content from previous RCS-e account	Previous content (Chat, files) should not be accessible when introducing a new SIM.
13	RCS-e service accessibility	The joyn service should be accessible for visually-impaired people.

2. Document Cross-References

Ref	Document Number	Title
1	n/a	**Annex A RCE Digi Guide V1.7**
2	RCE GEN 001	**Advanced Communications: Services and Client Specification Version 1.2.1 16 December 2011**

3. Glossary

Term	Description
'About Phone' section	Usually a service menu item on devices describing device and software release details.
3G	Third generation mobile cellular technology for networks based on the GSM standard.
3rd party communication applications	Communication services provided by parties other than the MNO. Third party services might be offered by the device manufacturer or over-the-top as a web-based service.
AB	Address Book, the user phone book on the device
Active Chat Dialogue	A Chat thread with a contact or group of contacts stored in the communication history
Active Voice Call	An on-going voice call
Activity Log	A log file where all communication events are registered. This log file might be designed as general log and/or person-centric log. (OEM dependent).
A-Party	Calling party/sender.
Blacklist	List of contacts or manually entered telephone numbers that are excluded from RCS-e communication by the user.
Block a contact	User-managed block use of joyn service and display of communication events of a user's specific contact. A contact might be defined as an address book entry or a manually inserted telephone number.
B-Party	Called party/receiver.
Bug Fix Update	A device software update provided by the MNO over-the-air to fix known bugs.
Call Application	The application that is active while dialling or within an active voice call, providing functions to control mute, loudspeaker mode, extend the call to a conference call etc.
Called Party	The party who receives a call.
Calling Party	The party who initiates a call.
Capability Discovery	The process that enables a user to understand the subset of joyn services available to access and/or communicate with his/her contacts at a certain point in time. The capability discovery is the RCS-e service backbone. It runs in the background without user visibility.

3. Glossary (continued)

Term	Description
Capability Exchange	Background process to exchange service capabilities via telecommunications signalling.
Changing Phone	Insert a legacy SIM card (previously registered and used SIM card) into a new device.
Chat	Instant Message Service - a form of real-time direct text-based Chatting communication in push mode between two or more people over a network.
Chat conversation	A thread of instant messages exchanged with one contact or a group of contacts.
Chat Thread	An Instant Message conversation log. The Chat thread usually contains all messages, notifications and events exchanged between two or more people listed in chronological order.
Communication history	Summary of all communication events (voice calls, SMS, IM, file transfers). The communication history might be presented as a complete list of all own communication events or filtered by communication partners (person centric view).
Contact Detail Page	Detail view within the user address book showing all attributes of a specific contact record.
Contact group	A list of contacts defined under a specific group name.
Content Share	The action of sharing an image or any other file over a voice call.
Core communication services	Standard communication services globally available in mobile networks: voice, SMS, MMS.
Cross-OEM	Definitions and agreements applicable across several handset manufacturers.
CS	Content Share service (Video/Image Share).
Customer journey	Sum of all experiences a customer has with a supplier of goods or services, over the duration of their relationship with that supplier. From awareness, discovery, attraction, interaction, purchase, use, cultivation and advocacy.
Device Configuration	The device configuration provides a RCS-e device or client with the necessary parameters over-the-air to operate within a specific RCS-e network.
Device Platform	Categorisation of mobile operating systems (mobile OS); the system that controls a smartphone, tablet, PDA, or other mobile device.
Dialler	Initial UI when entering the call app directly. Allows dialling a phone number manually or access to phone book, communication history or favourites.
File browser	A device application that allows the user to list and access files within the devices folder structure.
File Transfer	Transfer a file from sender to receiver and store the file in the receiver's file folder.
File Transfer Acceptance Dialogue	Before the File Transfer is initiated the receiver is requested to accept the file.
FT	File Transfer Service
Group Chat	A Chat session with multiple participants.

3. Glossary (continued)

Term	Description
Hard key menu	Some devices/operating systems support a specific device hard key to open a context sensitive menu.
Highly Recommended	A requirement for which implementation is highly desirable but implementation may vary from device to device.
Idle screen/locked screen	Display shown if the device is not in use and in idle mode. Usually a screen saver or a home screen.
IM	Instant Messaging – Chat service.
IM window	The Chat main screen – usually the Chat inbox/thread with message composer.
IMS	IP multimedia subsystem
IMSI	International mobile subscriber identity
In Call Screen	During call or call set-up.
IP	Internet protocol
joyn	The service mark for RCS-e services owned by the GSMA.
joyn logo	RCS-e service mark registered and owned by the GSMA. OEMs and vendors can accredit to use the joyn logo within their products.
Kb	Kilobyte
Legacy SIM	A SIM card that has already been in use.
LTE	Long Term Evolution
Maintenance Release Upgrade	A software update to fix bugs or issues detected with the installed software base. Maintenance release upgrades are usually run over-the-air.
Mandatory	A requirement that shall be reflected in the deliverable and tested for in acceptance testing.
Media Gallery	A folder within the device's file directory providing music, image, or video objects. The objects are usually presented with preview (thumbnail) features to simplify selection by the user.
Might	Means that an item is truly optional. One vendor may choose to include the item because it fits into the device implementation guidelines or because the vendor feels that it enhances the product while another vendor may omit the same item.
MMS	Multimedia message service
MNO	Mobile network operator
MO	Management object
MPEG	Moving pictures experts group
Ms	Milliseconds
MSISDN	Mobile subscriber integrated services digital network number

3. Glossary (continued)

Term	Description
MSRP	Message session relay protocol
MTU	Maximum transmission unit
Native address book	The address book that is deeply integrated into the device operating system.
Network Coverage	The geographic area where the device has radio connectivity to the mobile network.
Notification	Delivery of a message to a receiver with the intention to get the user's attention.
Notification bar	A specific section on the device display to indicate service events.
Notification tray	A specific communication channel to handle notifications.
OEM	Original Equipment Manufacturer
OEM UI guidelines	OEM's internal guidelines on how to design user interfaces (UIs) for mobile devices.
OMA	Open Mobile Alliance
Operating System	An operating system (OS) is a set of programs that manages a device's resources and provide common services for application software. The operating system is the most important type of system software in a computerised device. A user cannot run an application program on the device without an operating system.
OS	Operating System – see above.
OTA	Over-the-air
OTP	One Time Password
Overlay	An UI element put at the top layer of a display.
PC	Personal computer.
Provisioned Users	A user who is allowed to use the service. The business support system provides the appropriate permission.
PS	Packet Switched
RCS-e	Rich Communication Suite – enhanced
RCS-e Capabilities	Service capabilities reported by a RCS-e device to answer a capability request. Within RCS-e V1.2 the following service capabilities are reported: Chat, File Transfer, Video Share, Image Share.
RCS-e Capable Contact List	A filtered list of contacts showing those who are identified as RCS-e contacts – (see RCS-e Filtered Contact List below)
RCS-e Filtered Contact List	A filtered list of contacts which shows only RCS-e enabled contacts.
RCS-e network	A mobile network supporting RCS-e handsets in registration and use of RCS-e services.
RCS-e notifications	RCS-e notifications alerting RCS-e communication events. RCS-e notifications are differentiated from standard notifications by the use of the joyn service icon.
RCS-e Service Indicator	A symbol or icon that shows that the RCS-e service is up and running on the device.

3. Glossary (continued)

Term	Description
RCS-e Specification	GSMA specification RCS-e - Advanced Communications: Services and Client Specification Version 1.2.1 16 December 2011.
RCS-e Switch	Control element to switch off RCS-e on a device. All RCS-e UI elements and functions should be invisible or disabled when switched off. The availability of the RCS-e switch is controlled by the MNO via the RCS-e configuration file.
Recommended	Means that the definition is a core requirement to be fulfilled in all implementations.
Self-Care	Personal service maintenance with the intention of improving or restoring service functionality or to answer service-related questions.
Service Entry Points	Touch point to start the use of a service.
Service Workflow	The service workflow consists of a sequence of connected steps. Emphasis is on the flow paradigm, where each step follows the precedent without delay or gap and ends just before the subsequent step may begin.
Shadow message	Tool tip, hint to the user highlighted when focus is on UI element and disappears on user activity.
Share Touch Point	UI element that enables media sharing applications..
Should	Means that there may be valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood before choosing to do so.
SIP	Session Initiation Protocol
SMS	Short Message Service
Software Update	A partial or total replacement of a previously installed software pack. A software update is usually designed to fix problems with, or extend/enhance a mobile device application and/or its supporting data.
Status bar	An information area typically found at the top of mobile graphical UIs. A status bar is sometimes divided into sections, each showing different information such as coverage, battery status and service notifications. Its job is primarily to display information about the current state of the mobile device and the user's services.
Suggested	Recommendation that the MNO follows the advice given based on experience and customer feedback. There might be good reasons for an OEM not to follow the advice.
T&C	Terms and Conditions; any provision forming part of a contract that allows a user access to RCS-e services. Each term gives rise to a contractual obligation, breach of which can result in the withdrawal of the right to use the service, and may give rise to litigation.
The Network	All system elements involved in the end-to-end transaction between sender and receiver which do not belong to the user's device.
Touch Point	Relevant contact points with users before, during and after a RCS-e service interaction.
UI	User Interface – see below

3. Glossary (continued)

Term	Description
Unblock a contact	Permanently release the RCS-e blocking of a specific contact by the user.
Use Case	Describes the situation where specific elements and participants (users, systems) act to achieve an intended result.
Unified blocking mechanism	Blocking of a contact will block all incoming communications from that contact.
User Interface (UI)	The user interface (UI) is the space where interaction between humans and devices occurs. The goal is to achieve effective operation and control of the device, and collect feedback from the device to help the user in making operational decisions. The UI can be implemented as any combination of graphical, acoustic, or haptic elements.
User-Generated Content	All communication content that is generated by using RCS-e joyn services: Chat sessions, Chat history, Chat messages, File Transfer logs, Video Sharing history.
Vanilla	In this document: a software configuration without any RCS-e functions or RCS-e UI elements. No RCS-e touch-points are given on a vanilla device.
Video and Image Share	Sending a video or an image to the communication partner during a call. The video/image sent will be presented on the sender's as well as on the receiver's display.
Video Call	Bi-directional video communication with lip synchronous audio
Video Gallery	A folder within the device's file directory where videos are stored.
Welcome Video	A video or slide show that some OEMs incorporate into the device for the user to view when starting up the device the first time. The video gives an introduction and highlights the features of the new device.
Welcome Wizard	A guided tour to help the user to configure and use the new device.
xMS	Generic term covering all messaging services i.e. SMS and MMS.

4. Welcoming a new user

4.1 Objective

To introduce, raise awareness of, and inform the user about the presence and capabilities of joyn in their new device.

4.2 Description

joyn is not yet a well-known brand so it is important to gain a potential new user's interest as soon as possible The OEM should be encouraged to inform the new users about the joyn services. Some suggestions are listed below.

4.3 RCS-e presented on the package (the device box) itself (suggested)

The RCS-e consumer-facing brand – **joyn** – may be displayed on the box itself, using the joyn icon, a brief description of the service, and highlighting the website www.joynus.com. Please refer to the GSMA joyn Brand Usage Guidelines.

4.4 RCS-e leaflet inside the device package (suggested)

OEMs can include a specific leaflet about joyn inside the device package. This should be minimal 'quickstart' information and promotion of the website www.joynus.com. The leaflet could also potentially outline the costs associated with use of joyn services.

Although the GSMA RCS-e project team might prepare some information on joyn for the OEM, the leaflet design and production is owned by the OEM.

Please refer to the GSMA joyn Brand Usage Guidelines.

4.5 RCS-e as part of the complementary device manual (Highly Recommended)

Where practical, OEMs should update their device manuals to include information about the new features and services provided by joyn. As most full manuals are now online rather than printed, it should be relatively simple to include new information.

The information should be enough to enable the user to activate or deactivate joyn services, explain the service capabilities and enable the user to carry out other configurations that may affect the usage of joyn services on their specific device. (See also chapter 11). The website www.joynus.com should also be promoted within the device manual.

4.6 RCS-e present on the physical branding of the device (suggested)

A joyn logo on the device itself will raise consumer awareness of the service and may prompt users to find out more. Device branding may also prompt discussions and recommendations between peer groups. Please refer to the GSMA joyn Brand Usage Guidelines.

5. First start-up of RCS-e native device

5.1 Objectives
To raise awareness and inform the user about the presence of the joyn service in their new device.

5.2 Description
Following industry best practice, it is desirable that the first start-up of a new device be different from consecutive start-ups. Initial start-up represents an opportunity to present more detailed information about the new device to users who are generally willing to receive this information.

This presents an ideal opportunity to present joyn and its features.

5.3 Welcome Video (suggested/Highly Recommended)
During the first start-up, many OEMs provide a short welcome video to inform the user of key features or advantages of the new device. Information about joyn could be integrated into the video. The information could be one single screen introducing joyn in summary, or a more detailed series of screens explaining joyn and its services in more detail.

The implementation of this feature varies from 'Highly Recommended' to 'suggested' according to the existence or not of the feature set video:

- '**Highly Recommended**' to include joyn main features (IM, (Instant Messaging), FT (File Transfer), CS, (Circuit Switch) capability discovery in the AB (Address Book)), if such a features video exists in the device.

- Provide the option to launch the video within the video gallery and/or 'About Phone' section within a device's Settings menu.

5.4 Welcome Wizard (suggested)
During the first start-up, some device manufacturers include a one-time-only wizard to help the user configure the new device. This wizard can include information about how to access key joyn services and configurations.

The device will start up with default parameters accessible from the Settings menu.

5.5 User Consent (Highly Recommended)
Some markets require users to accept a new set of Terms & Conditions (T&C) for RCS-e. This process is entirely controlled by the RCS-e network based on messages as described in RCS-e specification V1.2. Chapter 2.14 'End user Confirmation Requests'.

The presentation of the messages must be clear to the user and not hidden within the notification tray for action, but be presented 'on top' of the screen.

5.6 Operating System update or Maintenance release update

This use case describes the scenario where the user sees their device becoming RCS-e capable after an OS update or maintenance release upgrade that introduces new or updated RCS-e capabilities into an existing device.

The behaviour post update should match the steps described previously, as if the user had just bought a new device, from the welcome video, to the T&C acceptance, etc. All remaining steps in the user experience should remain the same.

Where an existing implementation of RCS-e is being updated and since the current version of RCS-e doesn't contemplate server side storage of user data, it is critical that all existing user-generated content within the joyn services (Chat sessions, Chat history, Chat messages, File Transfer logs, Video Sharing history) be preserved during and after the update process.

5.7 Removal of content from previous RCS-e account (suggested)

When a new SIM card is inserted into an already-configured handset, RCS-e activity logs and previously transferred content within joyn services will follow the same policy as other data from the device such as photos, videos, SMS, and address book, as defined by the OEM.

Where the OEM or MNO policy is to delete pre-existing SIM-related data when a new SIM is inserted, the device should inform the new user before deleting the old content.

6. Blocking RCS-e Services

6.1 Objective

To provide a way to block undesired joyn services from a joyn-enabled contact.

6.2 Description

The user should be able to see what kind of services they can block.

For joyn-enabled contacts the user should be able to decide between the following blocking options:

- If the OEM supports blocking voice and/or messaging (xMS) services on a per-contact basis, there should be an additional option added for blocking the joyn Chat and FT services.

- If the OEM doesn't support blocking on a per-contact basis, a new feature should be added allowing the user to block joyn Chat and FT services.

In-call joyn Content Share or Video Share (please refer to chapter 10) is not affected by blocking/unblocking functionality.

6.3 Blocking/Unblocking RCS-e service principles

joyn services can be blocked on an individual contact basis, assuming the contact is a joyn user.

If the OEM has already implemented a unified blocking mechanism (including all communication services) then the joyn service should be included.

If User A blocks User B, from that moment User A should not receive any joyn Chat messages, Chat notifications or FT invitations from User B.

The consequences of blocking are only on User A's side. User B should never be aware of the block.

The following actions should happen on User A's device when blocking joyn services for User B:

User A should receive a visual confirmation (pop-up) if blocking was successful.

- User A should be able to see when the blocking was activated for User B (time stamp).

- Incoming notifications from User B should not be presented to User A.

- Chat messages from User B should be placed in a separate spam folder.

- Chat messages from User B should not be displayed in User A's joyn Chat messaging logs.

- User B remains a joyn contact for User A, and is listed as such in the contact list view in User A's address-book'

- On User A's contact detail page, the icons for launching joyn services should remain enabled for User B.

- User A should never send a 'displayed' notification for any incoming message from a blocked contact.

If User A unblocks joyn services for User B, then:

■ If blocked User B has sent messages or invitations to User A during the blocked period and the network supports Store & Forward, User A should still not receive those Chat messages, as they will have been delivered to the spam folder.

■ User A should receive a visual confirmation, icon/text, if the unblocking action was successful

6.4 Touch Points to Block and Unblock RCS-e services

The block/unblock of joyn services must be clear and simple to complete for the user. The action should be presented to the user in such a way that blocking of a contact does not prevent communication taking place via other channels, such as voice call, existing 3G native video calls or other messaging services, unless the OEM has implemented a unified blocking mechanism for all communications.

Blocking/unblocking of joyn services management should be possible from:

■ **joyn Contact Detail Page** – There should be an option to block the joyn services accessible from the contact detail page within a subordinate menu option. The contact detail page should present information on the current blocking state. This can be represented as an icon and/or text to clearly show the two states of blocked and unblocked joyn services

■ **joyn Chat application** – It should be possible to access block/unblock joyn services functionality from the Chat Application (this can either be in an option menu or in the 'joyn contacts' screen)

■ Other block/unblock touch points are optional. The block/unblock feature should be presented only if the OEM provides the option of blocking other communication services within these touch points.

6.5 Group Chat for contacts with blocked RCS-e services

The blocking/unblocking mechanism should apply also to Group Chat.

When the user initiates a Group Chat with a contact that they had previously blocked, or invites that contact to a Group Chat, the user should be alerted. The unblocking of this contact should then be proposed to the user and only if accepted should the contact be added to the conversation.

Optionally, if a third party in a Group Chat conversation adds a contact that is blocked, the initiating user should then also be notified.

Please also ensure that general principles as defined in in section 8.4 are applied in this scenario.

6.6 RCS-e services for contacts with blocked RCS-e services

It should always be possible to launch a 1-to-1 Chat, File Transfer or Content Share from any joyn touch point (see section 7) with a blocked contact.

When a user tries to initiate a joyn service with a blocked contact, the user should be presented with a warning pop-up proposing to unblock the joyn services for that contact. If the initiating user accepts the unblocking then the service can be launched.

7. RCS-e Service Touch Points

7.1 Objective

To maximise joyn service knowledge and awareness by new device users.

7.2 Description

A set of proposed actions that could ensure the right level of exposure of the joyn brand and will also benefit the user by enabling and familiarising the joyn services.

7.3 Iconography in touch points

The following matrix details how the joyn iconography shall be used across the service touchpoints.

Touch points		Status/ notification bar	Contact lists (incl call logs)	Contact card/ details	Gallery/file browser	Applications list	Chat screen	Calling screen
Service	**logo**	no icon	(To mark a contact as joyn enabled) Digi guide 1.9 page 5	(To mark a contact as joyn enabled) Digi guide 1.9 page 5	no icon	(joyn App icon) Digi guide 1.9 page 4.	no icon	no icon
	caption	n/a	n/a	n/a	n/a	joyn (NOTE: Lower-case 'j' is mandatory)	n/a	n/a
Chat	**logo**	incoming Chat notification: use joyn plain yellow logo. Digi guide 1.9 page 10 (111007)	(start a new Chat button) Digi guide 1.9 page 7	(start a new Chat button) Digi guide 1.9 page 7	no icon	No icon (general service icon applies)	no icon	no icon
	offline logo	no icon	No icon or greyed out icon only for MNO not supporting store and forward. Digi guide 1.9 page 9	No icon or greyed out icon only for MNO not supporting store and forward. Digi guide 1.9 page 9	no icon	No icon (general service icon applies)	no icon	no icon
	caption	Same format as SMS notifications i.e. 'new Chat from <name>: <message>'	Chat (optional)	Chat (optional)	n/a		n/a	n/a

Touch points		Status/ notification bar	Contact lists (incl call logs)	Contact card/ details	Gallery/file browser	Applications list	Chat screen	Calling screen
File transfer	**logo**	incoming Chat notification: use joyn plain yellow logo. Digi guide 1.9 page 10 (111007)	(Send new file button) Digi guide 1.9 page 9	(Send new file button) Digi guide 1.9 page 9	(Send new file button) Digi guide 1.9 page 9	no icon	(Button that allows to send a File during a Chat) Digi guide 1.9 page 9	n/a
	offline logo	n/a	No icon or greyed out icon Digi guide 1.9 page 9	No icon or greyed out icon Digi guide 1.9 page 9	does not apply in a non contact related context.	no icon	Greyed out version of the icon chosen above. Digi guide 1.9 page 9	n/a
	caption	incoming file from <name>: <filename>	send file (optional)	send file (optional)	joyn (optional)	n/a	n/a	n/a
image share	**logo**	n/a	n/a	n/a	n/a	n/a	n/a	(icon to display access to Image share and other sharing option while in call-)
	offline logo	n/a	n/a	n/a	n/a	n/a	n/a	Greyed out version of the icon as above. Digi guide 1.9 page 9
	caption	n/a	n/a	n/a	n/a	n/a	n/a	image share (Optional)
live video	**logo**	n/a	n/a	n/a	n/a	n/a	n/a	(start video share) digi guide v1.9 page 7/9
	offline logo	n/a	n/a	n/a	n/a	n/a	n/a	OEM to make button inactive
	caption	n/a	n/a	n/a	n/a	n/a	n/a	video share(optional)

7.4 No RCS-e service indicator in status bar (MANDATORY)

Though the device is RCS-e capable and is connected to the RCS-e network, no joyn indicator should appear in the status bar, just as no special indicator appears for SMS or voice.

7.5 Idle/locked screen (MANDATORY)

When the device is in the idle or locked state, the user notifications shall follow the same behaviour as SMS (or MMS) notifications.

If the system displays any kind of information for SMS/MMS over an idle/locked screen, it is highly recommended to apply the same principles shall apply to incoming joyn Chat messages or File Transfer notifications.

The notifications shall clearly indicate, using text and icons, the type of incoming communication. Please refer to the GSMA Digi Guide for the correct service icons.

7.5.1 Single notification per Chat conversation (Highly Recommended)

The Chat notifications should be displayed as one single notification per conversation.

The File Transfer notifications should be displayed as one single notification in the case of multiple File Transfers from the same contact.

7.6 RCS-e capable contact list (MANDATORY)

Within the native address book, in the contact list view, the device must be able to visually distinguish joyn capable contacts.

All joyn capable contacts shall be marked with the joyn logo.

The joyn yellow glyph for capable contacts is a static icon that never becomes grey.

According to the RCS-e specification, the address book list of joyn capable contacts must be cached within the device and updated from time to time according to the polling parameters set by the MNO.

When a new contact is added or an existing contact modified, a request on joyn capabilities shall be triggered for this contact. This action happens within a matter of seconds and the contact capabilities are updated accordingly.

7.6.1 RCS-e dedicated contact list (Highly Recommended)

It should be possible to filter contacts to display joyn capable contacts only.

7.7 RCS-e contact detail page (MANDATORY)

When a user selects an individual contact from their native address book the contact detail page will, in addition to the normal details, incorporate details about joyn as follows:

- The contact detail header contains the joyn icon next to the name to indicate that the user is joyn capable.

- The contact detail page includes access to joyn Chat and File Transfer using the correct joyn iconography as specified by the GSMA Digi Guide.

- The joyn service icons, should be positioned at top level, next to the core communication services like voice and xMS, and take priority over other third party communication applications (please refer to section 7.11)

7.7.1 RCS-e contact detail advanced features (Highly Recommended)

- The communication touch points may also display a notification overlay to show the user how many unread messages exist from this contact.

- If the contact detail page contains access to the activities logs, please refer to section 7.8.

- The contact detail page should provide access to blocking functionality, please refer to chapter 6.

7.8 RCS-e services within activities log (Highly Recommended)

By 'activities log' this document refers to logs where all the activities like xMS and calls are aggregated in one place.

The joyn services – Chat and File Transfer, Content Share – should be included in the log. The entries should align to the OEMs own design principles for activities logs, but should ensure that:

- Chat entries contain reference to the contact with which they were carried out and are branded with the joyn Chat icon and timestamp.

- File Transfer entries contain references to the contact and are branded with the joyn File Transfer icon and timestamp.

- Content Share entries contain reference to the contact, are branded with the general joyn icon, timestamp and, if available, a shortcut to the shared content.

From any newly created joyn log entry it should be as straightforward for the user to launch joyn services as it is for voice and SMS.

From the existing call and messaging logs it should also be possible for the user to launch joyn services.

The joyn contacts in the existing call and messaging logs and newly created joyn log can be distinguished by the joyn logo close to the contact's photo/image.

If an OEM proposes a quick access to filter logs (e.g. call logs accessible from call application, contact list or contact detail page) then the filtered joyn logs should also be accessible from the joyn Chat application, contact list in address book and contact detail page.

7.9 RCS-e alert notifications (MANDATORY)

RCS-e notifications (i.e. incoming message/file) shall be differentiated from other standard notifications by using the relevant joyn service icon.

The notifications for joyn services shall adhere to the behaviours and principles applied to SMS and voice.

The following use cases present notifications to the user:

	Unlocked Screen	**Locked Screen**	**During Voice Call**
Chat Message	Only if outside Chat window/session (Note 1)	Yes	Yes
File Transfer	Only if outside Chat window/session (Note 2)	Yes	Yes (Note 3)
Video Share	-	-	Yes (Note 3

Table 1: Alert Notifications per RCS-e service

Note 1: For the incoming message notification with an unlocked screen scenario, the following applies:

- If the user's current screen is outside the specific Chat view, the Chat notifications of incoming Chat messages shall appear in the notification bar. By opening this notification, the user should be directed to the corresponding Chat session/view. Multiple Chat notifications shall be displayed as one single notification per Chat conversation.

■ If the current application is the Chat application, then the upcoming message shall trigger a notification in the notification bar and update the Chat to:

- display the corresponding Chat session as active and unread and

- display a counter with the total number of unread messages in that session.

■ If the user's current view is the contact detail page of the contact that is sending the message then the joyn Chat icon shall be showing a counter with the total number of unread messages from that contact.

■ If the user's current view is the Chat session of the incoming messages, the message appears directly in the conversational view without generating notifications in the notification bar.

Note 2: For the File Transfer notification under the unlocked screen scenario, the following should apply:

■ The File Transfer invitation should present an icon, file type and size of incoming file prior to its acceptance and the options to accept or cancel the incoming File Transfer.

■ The File Transfer notifications should be displayed as one single notification in the case of multiple File Transfers from the same contact.

■ If the user's current view is outside the Chat window, the File Transfer invitation shall appear in the notification bar. When selecting this notification, the user must be able to accept or reject the invitation directly from within the notification without the need to be directed to the Chat application.

■ Once the File Transfer invitation is accepted in the notification bar, the notification should change to allow the user to access the corresponding Chat session/view.

■ If the user's current view is within the corresponding Chat window, then the File Transfer invitation shall be placed directly within the conversation without generating a notification in the notification bar.

■ As a general rule and due to the fact the File Transfer invitations have a timeout, it is necessary that the FT notifications are presented with the highest priority and visibility available within the device (ex. using pop-ups, prioritise within notifications lists, etc.).

Note 3: During a voice call, when there is an incoming Video Share or File Transfer invitation, in addition to the visual notifications there should be an acoustic or vibration (haptic) notification to inform the user. This is because the device would normally be positioned next to the user's ear and away from their visual field.

7.9.1 Notification customizations (Highly Recommended)

The same level of customization available to SMS and Call notifications should be available to RCS-e services and should be configured via the RCS-e settings panel.

7.10 RCS-e call screen (MANDATORY)

It is mandatory that the joyn call screen varies from the call screen displayed when calling non joyn capable contacts.

The main joyn in-call services – File Transfer and Video Share – must be accessible from the main call screen, not in any option menu or subordinate UI layer and must be accessible and prominent via separate icons (please refer to the GSMA Digi Guide).

The icons must always be visible for calls with joyn contacts. When the device is aware that the service (e.g. Video Share) is available, the icon must be highlighted. When the service capability update indicates the service is not available the icons must remain visible but inactive, i.e. greyed out, as per the icons.

When activating Video Share, the device must switch to loudspeaker mode by applying the OEM default control (e.g. by automatically detecting the device on ear/device in front of face) if available.

If the headset is used, the sounds should remain in the headset.

7.10.1 RCS-e call screen – optimisation (Highly Recommended)

On the receiving device, the share invitation should be indicated not just visually but also as haptic/acoustic – according to the receiver's settings. Accept and Reject buttons should be presented in such a way that they allow the receiving user to select the desired response without difficulty.

The invitation notification within the call screen should never hide the possibility to mute the call, share file, or activate hands-free mode.

7.11 RCS-e services prioritisation (Highly Recommended)

Whenever communication services are listed, joyn services should always be positioned more prominently than third party communication services.

Communication services should be listed in terms of priority in the following order:

1. Native communication services (voice, xMS)

2. joyn services (Chat, File Transfer)

3. Other additional native services (location, mail, etc.)

4. All other communication services (non-natively implemented)

5. All other services

The default state for the joyn service should be determined via the service capabilities features of RCS-e rendering the buttons disabled or active accordingly.

For example, in some implementations, when the user clicks over a photo of a contact within the native address book, they are presented with a shortlist of services available for that contact.

7.12 RCS-e Chat application (MANDATORY)

On RCS-e enabled devices, the access to the joyn Chat application shall be at the same level and with at least equal prominence as the pre-existing messaging application (xMS).

7.13 RCS-e service in native sharing list (Highly Recommended)

Some OSs allow users to have a native list of sharing services available system-wide. This predefined list is displayed on multiple share touch points across the device UI. When such a native sharing list exists, joyn File Transfer should be included and listed within the top native sharing options available.

8. Chat Workflow

8.1 Objective
To describe the joyn Chat service workflow and entry points.

8.2 Description

Different OEMs will have different user interfaces for the joyn Chat service. In order to increase word-of-mouth around the joyn service and promote its user-friendliness, some level of consistency across UIs is recommended, especially at the level of the service entry points.

In general RCS-e Chat messaging should align with the functionality implemented by each

OEM for other messaging services (for example, clickable phone numbers within messages, emoticons support, clickable URLs etc.).

It is advisable to visually distinguish between 1-to-1 and Group Chat sessions.

Navigating away from a Chat session should not cause the user to quit the session.

8.3 RCS-e Chat service entry points

joyn Chat needs to be available in key UI touch points (visually represented in the image below) in order to ensure that access to the joyn Chat service is as consistent as possible across devices, manufacturers and OSs.
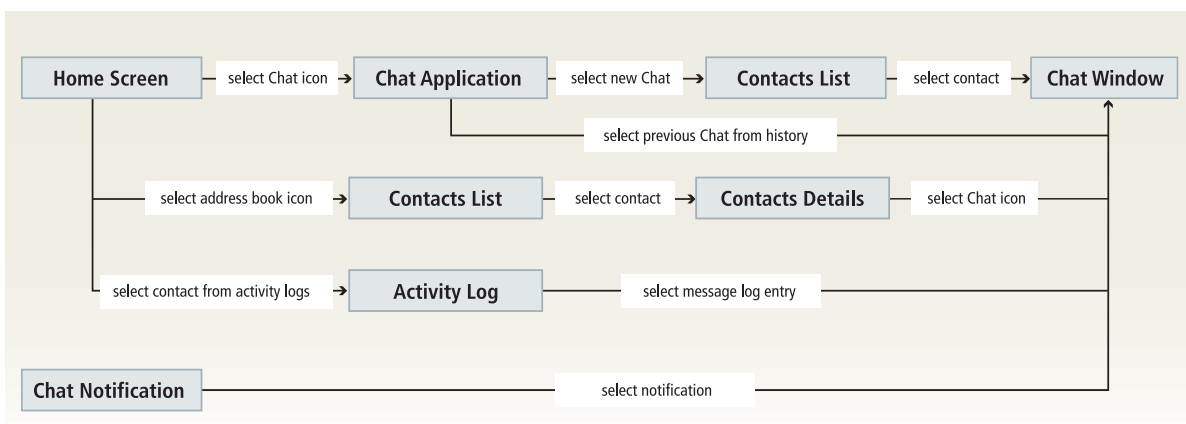

Figure 1: RCS-e Chat service entry points

8.4 Multiple Chat Sessions

The joyn Chat service is able to handle multiple different messaging sessions at the same time, so it's critical that the device provides an intuitive, easy and quick way to move between different Chat sessions.

The user should be able to quickly identify Chat sessions that contain unread messages.

Within a Chat view the user should be able to see a list of that session's participants.

8.5 RCS-e Chat notifications (MANDATORY)

Please refer to section 7.9 on general notifications properties and behaviour.

Chat messages must generate the following specific notifications within the Chat session view:

- **Is typing**: When another participant in the Chat session starts typing a message.

- **Sent [Sending/sent/pending delivery]**: From the moment the user hits 'send' to when the message is delivered to the network, the device should display the message without any icon or text immediately next to it.

- **Delivered**: When the message has reached the receiving device, the sender's device should display the 'delivered' icon/text aligned with OEM UI principles.

- **Displayed**: When the message has been displayed in the Chat view on the receiving

device, the 'read' icon/text should be displayed according to OEM UI principles.

- **Failed**: When the message cannot be delivered due to a network or client failure, the 'alert/failed' icon/text should be displayed on the initiating device, following the specific OEM UI principles. In this situation, the user should be presented with an option to retry/resend the message without having to re-type it.

There are no specific GSMA/RCS-e defined icons for the above mentioned notifications; therefore each OEM is free to use their preferred icons according to their own UI principles.

8.6 Group Chat (MANDATORY)

The joyn Chat service allows the user to be in a conversation with multiple participants, through a Group Chat functionality that resembles permanent groups. Once a group is created, from a user point of view, it remains as an operative entity while the number of participants keeps above two.

It should be noted that due to the current lack of S&F, any participant who involuntarily leaves a Group Chat will not ever see or be able to retrieve any messages exchanged while the participant is offline.

In order to provide a 'permanent' experience, network time-out messages will not be presented in the UI, and the Group Chat conversation will appear uninterrupted.

8.6.1 Group Chat creation

Creating a Chat session with multiple participants – Group Chat – should be a quick and easy process. This option shall be available in the following key touch points across the device:

■ **By expanding a 1-to-1 Chat conversation**: Allowing a user to quickly add more participants from a current 1-to-1 Chat view. The original 1-to-1 Chatters keep their 1-to-1 session in their Chat list view and the new group is created as a new session that starts from scratch for all participants. If participants later leave the Group Chat, it will remain a Group Chat even if there are just two remaining participants.

■ **From within the Chat application**: by allowing the selection of multiple joyn capable contacts. The list of joyn capable contacts shows only the subset of contacts that are marked as joyn enabled in the device at the moment the Group Chat is created. Two consequences are:

- There will be no way to invite a contact who was not discovered as joyn enabled before the Group Chat session is created.

- A contact may be shown as eligible for the Group Chat, but is not available to participate. If the contact is invited, he may join the Group Chat later.

When initiating a Group Chat session, the user needs to be aware of the maximum number of participants allowed (set by MNO). It is suggested that this limit is visibly present every time the user selects or adds users to a Group Chat session.
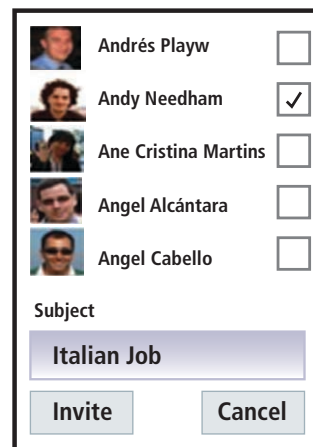
It will be possible to add a Subject at this step, optionally:

■ Subject is used as a header in the conversation view, and also as the name of the Group Chat session in the Chat list view.

■ If nothing is written in the Subject field, the field will remain empty until a user defines it. From a user experience perspective, a client implementation may use the list of participants and/or the last message (or any relevant conversation related information) as an identifier of the Group Chat in the list of conversations and the Chat window header.

Once created and while active, Group Chat conversations will be presented together with the 1-to-1 conversations in the Chats list view. From this view it will be possible at any time to continue a Group Chat started in the past.

8.6.2 User experience within the Group Chat conversation

Due to the variable number of participants within the conversation, the user experience for Group Chat should differ from 1-to-1 Chat in the following points:

8.6.2.1 Participants list:

Ensure that the user can easily see a list of the current participants in the Chat session, without leaving the Chat window.

Information about participants shall be shown prominently (e.g. in the top bar of the Group Chat). The information displayed shall include the number of participants in the Group Chat, ideally detailing the number of active and inactive (offline) users.

It shall then be possible to access a detailed view of the participants (e.g. tapping on the title/ top bar of the Group Chat) presenting: names, pictures and status indication (active or inactive):

- '**Active**' status means that the participant is receiving all the messages sent to the group. The status will be 'active' if a notification of invitation acceptance has been received.

- The status will be '**Inactive**' if the above notification is not received (because the invitation was not delivered, or the autoaccept was not correctly received). 'Inactive' status means that currently the participant is not receiving any message sent to the group. If the Group Chat session reopens, the previously inactive user may be re-invited and become 'active'.
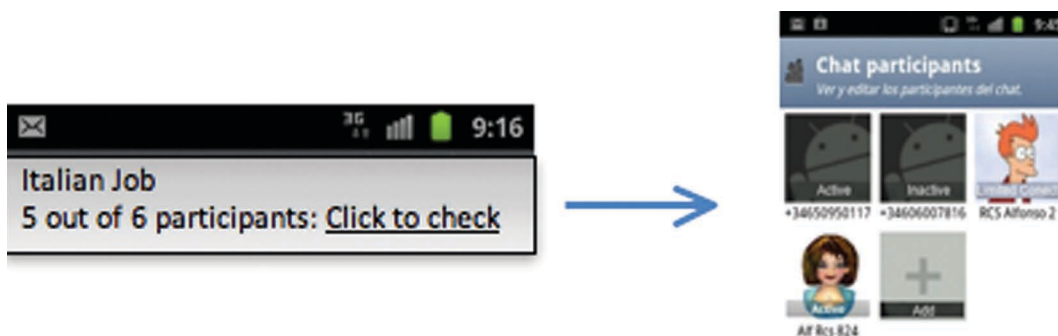
It must be possible for all participants to add more participants to the Group, through the correspondent option as per OEM UI principles.

8.6.2.2 Real time notification of participants:

In order to provide a smooth user experience of a permanent group that actually is implemented over a dynamic one, the following notifications shall NOT be displayed in the UI:

- Notification stating the Group Chat has been created.

- Notification to the initiator that he has joined the Group Chat.

- Notification that each participant has accepted the invitation (the status of each participant is displayed to the initiator in the 'Participants list' described above).

The only notifications that shall be displayed are:

- A notification that a participant has manually left the Group Chat.

- A notification that a new user has been invited to the Group Chat

Regarding the user message notifications:

- '**Is typing**' notification from different participants should be combined into a single notification - for example '2 people are typing').

- '**Delivered**' and '**Displayed**' notifications shall NOT be displayed in the current RCS-e implementation

- 'Failed' notification will be displayed.

8.6.2.3 Users leaving a Group Chat:

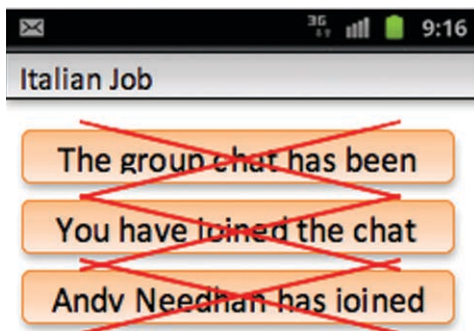One of these two alternatives is mandatory, with preference for the first. A user must be able to leave a Group Chat. When a user proactively leaves a session, the other parties shall be notified. The departing user shall not receive any further notification or messages from that Group Chat session. When a user leaves, the Chat history in his device is locked and the reply button disabled. Alternatively the Chat history could be removed and no further access to this session would be allowed.

8.6.2.4 Loss of connectivity

If loss of connectivity causes a user to drop out from a Group Chat, the availability of the user in the other participants' participant list should be updated to 'unavailable'. However, in accordance with the notifications described in 8.6.2.3 above, no notifications shall be presented in line with messages.

When connectivity is restored, the user's device will silently try to rejoin an ongoing session. If successful, the user availability should be updated in the other participants' participant list and no notifications shall be presented in line with messages. If the attempt to rejoin fails, it is up to the user to attempt a retry. After that, as per implementation guidelines a rejoin request always accompanies an attempt to send a new message within the session, Should this fail, a restart is triggered. This activity is transparent to the user.

8.6.2.5 Participant differentiation

The messages originating from each of the users within a Group Chat window must be easily distinguishable per participant, e.g. by placing the originator's name or picture together with the message, and using a different colour for each participant's messages. It's advisable that an uninterrupted sequence of consecutive messages from the same participant is not fragmented by repeating the name/picture and displaying in separate bubbles.

8.6.2.6 File Transfer

In the current RCS-e implementation the option for File Transfer in any Group Chat scenario will not be available, even when a Group Chat is reduced to two participants (due to participants leaving the session). Therefore, File Transfers icons/buttons should not be made visible to the user when a Group Chat is in progress.

8.6.3 UI management of network expired sessions

A Group Chat expires in the network when there is no activity in it for 3-5 minutes. However, when this happens, the device shall manage this network limitation by providing the user with the experience of a permanent Group Chat, showing the session in the Chat history and allowing any subsequent continuation of the Group Chat conversation. The following solution shall be implemented:

■ Network status is not shown to the user, i.e. 'Chat closed' is not to be displayed at the UI level.

■ Simply writing a new message and clicking 'Send' will be enough to continue a Group Chat that has timed out at network level.

■ While the Chat is closed at network level, the 'Participants list' should still be clickable in order for the user to be able to visualise the recipients of their new message. However, all participants may be marked as inactive where there is no information on their availability.

■ When the user clicks 'Send', invitations are silently sent, and as soon as the Group Chat session is set up, the user message is also sent.

■ Group Chat follows up in the same Chat window, keeping the full history of the session.

■ When a Group Chat is restarted, notifications for each participant rejoining are not displayed again. The top bar will show if any participant is unavailable and will give access to details of active participants.

8.6.4 UI management of duplication

If a client receives multiple invitations/ messages for the same Group Chat identifier, the UI must hide this from the user and apply all the appropriate policies for de-duplication and consolidation of the list of participants (as described in the RCS-e implementation guidelines v2.2) in a way that is totally transparent for the user. The user shall only see messages flowing in their conversation thread and the appropriate notifications on the participants as described in section 8.6.1.

8.7 In/out of coverage Chat experience

RCS-e services are network aware, meaning that some of the services might not be available at all times. The user experience of how each service reacts to the in and out of service coverage is critically important for the success of joyn.

According to the RCS-e specification there are two possible scenarios, depending on whether the user's network has S&F capability or not. When S&F is supported, the Chat capability (only for 1-to-1 Chat) is always present and the user must always be able to send a message immediately.

If the network does not support S&F, then the 1-to-1 Chat capability should be indicated as disabled until it receives the correct SIP capabilities from the receiving contact. Optionally, and following MNO configurations, when the user tries to access Chat while it is disabled, a pop-up suggesting writing an SMS instead may be provided. In this case it is highly recommended that the text and recipient of the current message being written by the sending party be reused for the new SMS.

8.8 Deleting messages and Chat sessions

Within the Chat Application view or from the joyn log in the Address Book (contact list and/or contact detail page) it should be possible for the user to delete specific Chat sessions.

The user needs to be able to delete Chat content at two levels: clearing the entire thread or by selecting individual messages. The deletion of Chat content should be aligned with the method applied for xMS.

▌8.9 Emoticons (MANDATORY)

The Chat composer must take advantage of emoticons. Specific character sequences known as emoticons must be replaced with a graphic when an IM is received and is displayed to the user, or when the user composes an IM the emoticons are replaced with the specific character sequence(s).

The mandatory minimum set of emoticons is listed in the table below (Table 2). The table only captures a subset of emoticons that are widely used. OEM implementations may extend the list with additional character sequences. The first column in the table identifies the emoticons. The second column defines one or more character sequences for each emoticon so that different client implementations can

associate the same meaning to a character sequence and ensure interoperability. The third column provides a description of possible graphical renditions. Please note that the third column provides examples only and client implementations are not constrained to follow the examples. The exact images representing the individual emoticons are not in the scope of this enabler – it is an implementation choice.

OEMs can implement the emoticon menu option as they wish but consumer feedback suggests that users prefer to select multiple emoticons within an emoticon menu rather than selecting one, jumping back to the composer and having to reopen the emoticon menu before selecting another emoticon.

Emoticons	Character sequences	Examples describing graphical renditions
Happy, smile	:-) or :)	A happy or smiling face
Sad	:-(or :(	A sad face
Wink	;-) or ;) or ;o) or ;O)	A winking face
Big grin	:-D or :D or :oD or :-d or :d or :od or :Od or :OD	A big grin face
Confused	:-/ or :-\	A confused face
Blushing, embarrassed	:'-) or :') or :'> or :- or $ or :$	A blushing, embarrassed face
Stick-out tongue	:-P or :P or :oP or :-p or :p or :op or :OP or :Op	A stick-out tongue face
Kiss, red lips	:-* or :*	A kissing face or red lips
Shocked, surprised	:-O or :-o or :o or :O	A shocked, surprised face
Angry	:-@ or :@ or X-(or X(or x-(or x(or xo(or XO(	An angry face
Cool, sunglasses	B) or B-) or (H) or (h) or Bo) or BO)	A face with sunglasses
Worried	:-S or :S or :-s or :s or :oS	A worried face
Devilish	>:-) or >:) or >:o) or >:O)	A devilish face
Crying	:,-(or :,(or :'-(or :'(or :,o(or :'o(or :,O(or :'O(	A crying face

Emoticons	Character sequences	Examples describing graphical renditions
Laughing	:-)) or :)) or :o)) or :O))	A laughing face
Straight face, disappointed	:-| or :| or :o| or :O|	A straight face
Angel, innocent	O:-) or O:) or o:-) or o:)	An innocent face
Nerd	:-B or :B	A nerdish face
Sleepy	|-O or |O or |-o or |o	A sleepy face
Rolling eyes	8-) or 8) or 8o) or 8O)	A rolling eyes face
Sick, ill	:-& or :& or ;o& or :O&	A sick/ill face
Shhh! No speak, lips sealed	:-SS or :SS or :ss or :-ss	A face with sealed lips
Thinking, pensive	:-? or :?	A pensive face
Raised eyebrow, sarcastic look	/:-) or /:) or /:o) or /:O)	A raised eyebrow face or a face with a sarcastic look
Rose, flower	@):-	A rose
Cup of coffee	~o)	A cup of coffee
Drink, cocktail	)-|	A cocktail glass
Idea (light bulb)	*-:-) or *-:)	A light bulb
Love struck, heart	(L) or <3	A heart
Beer	(b) or (B)	A pint of beer
Broken Heart	(u) or (U) or \Z/	A heart broken in two
rock on!	\m/	A smiling face with rockstar fingers
pirate	:ar!	A face with eye patch
silly	8-}	A face with wobbly mouth and spinning eyes
applause	=D>	A face with clapping hands
Penguin	<(')	A small penguin
Music Note	-8	A semi quaver
Star	(*)	A gold star
Clock	(o) or (O)	A clock face
Pizza	(pi) or (PI)	A slice of pizza or a whole pizza
Money	(mo) or (MO)	Coins or notes or coins and notes

Emoticons	Character sequences	Examples describing graphical renditions
Sheep	(bah) or (BAH)	A sheep
Pig	:8)	A pig's face
Sun	(#)	A shining sun
Rain Cloud	(st) or (ST)	A cloud with rain or cloud with rain drop
Umbrella	(um) or (UM)	An open umbrella
Aeroplane	(pl) or (PL)	A plane
Birthday Cake	(^)	A cake with candles
Party!	<:o)	A face wearing a party hat and blowing a party blower
Film	(~)	A roll of film or strip of film
Gift	(g) or (G)	A gift wrapped present with bow
Email	(e) or (E)	An open envelope
Phone	(t) or (T)	A hand receiver with cable
Wave	:-h	A face with hand waving
Big hug	>:D<	A face with hands hugging itself

Table 2: List of emoticons

The client will process sequences associated with each emoticon, converting the character sequences from/to their corresponding image representation when a Chat message is received/displayed or composed or sent.

9. File Transfer workflow

9.1 Objective

To describe the joyn File Transfer service workflow and entry points.

9.2 Description

Different OEMs will have various UIs for the joyn File Transfer service, so in order to maximise user friendliness we need to ensure functional coherence across OEM implementations. Therefore it is particularly important to highlight the service entry points where File Transfer should become available, and the expected behaviours and notifications.

9.3 RCS-e File Transfer service entry points

joyn File Transfer needs to be available from key UI touch points (graphically represented in the figure below) to ensure a cross-OEM access to joyn services.
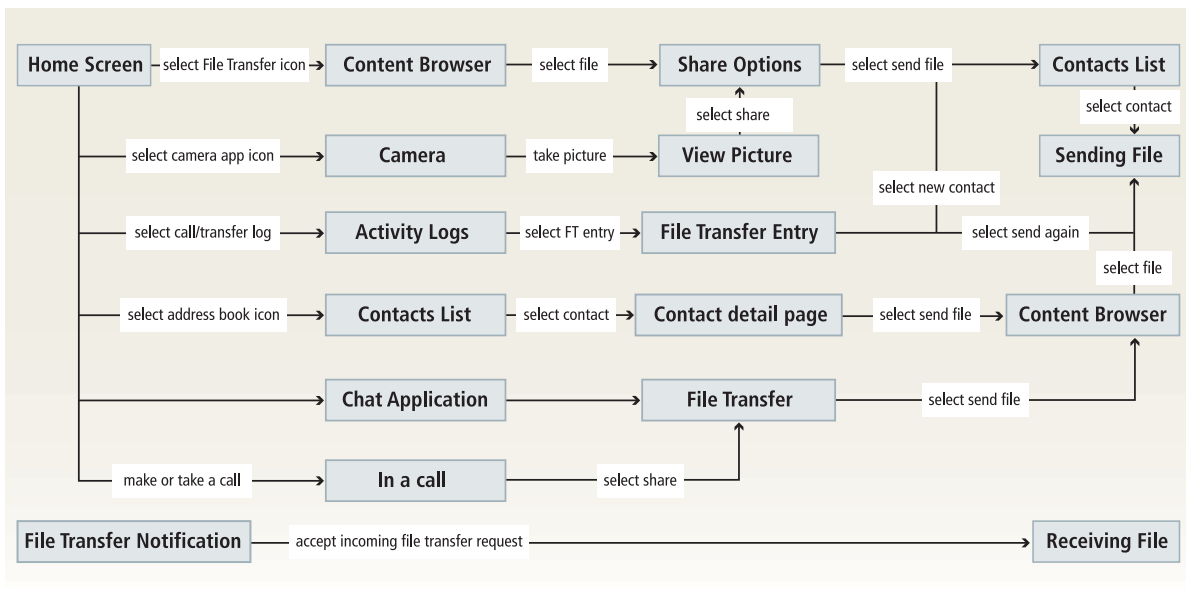

Figure 2: joyn File Transfer service entry points

9.4 File Transfer user interaction and presentation

9.4.1 Sender's Experience

In general joyn File Transfer should be offered for all share touch points provided natively by the device.

In order to transfer files the user should be able to:

- Select a recipient from his joyn capable contact list or by introducing a phone number manually

Note: Although the current RCS-e specification allows users to send files to multiple users it is recommended not to provide this option at the current stage of implementation.

- Access the content browser (gallery, file browser, etc.) for selecting files to transfer. The file name, size and type should be presented to support the file selection.
- Be advised every time a file surpasses the MNO transfer size limit (FT WARN SIZE).

In the case of image transfers, the image should be automatically resized before transfer and the user given the option to:

- Accept sending a resized image file and/or
- Decline sending a resized image file and/or
- Cancel the image transfer transaction

The user needs to be able to continue to Chat while the File Transfer occurs in the background, unless in Group Chat where File Transfer is not available.

Once the send process starts, both the sender and receiver should have transparency about the transaction status

- The sender receives a 'waiting for acceptance' message until the receiver accepts the File Transfer invitation. This message might be updated with an error message if communication problems or a time-out occurs.
- Both parties' devices present a progress indicator to be defined by the OEM while files are transferring.
- Both parties receive a success/failure feedback after the File Transfer process has finished.

The sender can interrupt the transfer at any time and the receiver should be informed about the cancellation.

If a File Transfer is interrupted by failure or user interaction, then a 'resend button' needs to be offered to allow the user to re-send the file without selecting a new receiver or selecting the file again.

Each File Transfer needs to be registered in an activity log.

9.4.2 Receiver's Experience

Please take into consideration the general guidelines regarding RCS-e notifications in section 7.9.

File Transfer invitations will time out if not processed. A timed-out notification or failed File Transfer invitation will be shown as 'timed out' and not 'cancelled'.

Activating the File Transfer notification will open the invitation dialogue. If the OEM's UI principles allow, acceptance or rejection of a File Transfer invitation might be possible directly from the notification.

The receiver will be asked to accept or reject the File Transfer.

For each File Transfer request, the receiver must be able to see the file name, icon, file size and type prior to its acceptance or rejection.

The receiver must be advised if the incoming file size exceeds the total remaining storage capacity of his device. If, on receipt of the notification, the receiver accepts the File Transfer, the transfer shall automatically cease, the receiver should be notified and a rejection message should be sent to the sender. The rejection message should <u>not</u> indicate that storage capacity was the cause for rejection of the File Transfer.

Accepting a File Transfer should immediately start the transaction and the received file should be stored in the standard download folder according to the OEM's design principles. It is suggested that a dedicated 'joyn transferred content folder' be provided.

At any time the receiver should be able to stop the transaction. If the receiver stops the transaction the sender should be informed.

If the file type received is supported by the device OS, then an open or view option should be presented to the user.

Each File Transfer needs to be registered in an activity log.

The receiver device should display a progress indicator determined by the OEM while receiving is underway.

Optionally, the user should have access from the contact detail page to all content exchanged with that contact.

9.4.2.1 File Transfer auto accept:

During the first 'Friendly User Trials' in Spain and Germany a shortcoming of the joyn File Transfer service was detected and reported by various operators. The final fix for this issue is the 'File Transfer Store & Forward' and 'File Transfer Thumbnail' introduction in the joyn Blackbird release. Before the significant enhancement of the user experience in the joyn Blackbird release is available, 'Auto-Accept for File Transfer' shall help.

The improvement 'Auto-Accept' shall only apply to the File Transfer feature linked to the 1-to-1 Chat application. The Auto-Accept shall not be applied to the Rich Call features such as Image Share (content sharing when in a call).

■ Auto Accept for FT shall be configurable per MNO with the standardised network configuration parameters for joyn.

■ If Auto Accept is configured to be de-active by the MNO, then the device shall behave exactly like a non-Auto-Accept device (i.e. manual confirmation of incoming files as per RCS-e 1.2.1 specifications). Specifically, there shall be no option for users to enable Auto-Accept, neither when receiving a file nor in the Settings menu.

If the Auto-Acceptance for File Transfer is 'active' the device shall behave as follows:

- There shall not be any user manual acceptance or confirmation required to trigger the incoming File Transfer.

- An incoming File Transfer shall be accepted automatically by the device (similar to an incoming file that has been manually accepted for download).

- The notification of an incoming File Transfer shall be same (non-intrusive) as for the non-Auto-Accept case. Standard file reception notifications shall be used (on download progress and completion).

- There shall not be any different behaviour on the sender side caused by the introduction of Auto-Accept for File Transfer.

- In the Settings menu for File Transfer there shall be a user-accessible switch to de-activate Auto-Accept (which shall be set to 'Active' by default). When Auto-Accept is 'Active', there shall be a second switch to 'Activate/Deactivate' Auto-Accept while Roaming.

- The default setting for 'Auto-Accept' when roaming shall be 'de-active'.

- Where the Network supports Auto-Accept and Auto-Accept on the device is set to 'Inactive', the device shall offer the user the following options on receipt of an incoming File Transfer: 'Accept', 'Always Accept', 'Reject'.

- If the user selects 'Always Accept' while on their home network, the menu setting for Auto-Accept shall automatically change to 'Active'.

- If the user selects 'Always Accept' when roaming the setting of the Auto-Acceptance when Roaming automatically changes to 'Active'. The user can change the switch at any time manually.

- When the user is on a Wifi network, Auto-Accept shall assume it is on a home network, irrespective of geographic location.

9.5 File Transfer notifications

File Transfer notifications must be processed following OEM standards for notifications; please refer to section 7.9 on generic RCS-e notifications guidelines.

File Transfer notifications are classified as:

- **File Transfer notification**: Notifications must have high priority as the user must accept or reject the file immediately due to the potential invitation timeout.

- **Warning notification**: i.e.: file size warnings (network dependent). If accepted no extra notification is required, if rejected the sender must be informed that the receiver rejected the File Transfer. For the receiver, we recommend to merge this warning with the transfer request notification.

- **Storage notification**: Cautioning notification to the receiver if the announced file size is bigger than the remaining free storage on the receiving device.

- **Error notification**: when the File Transfer ends in error (i.e. one of the parties has rejected/cancelled the file, network issues, timeout, etc.). The error notification needs to propose a retry to the sender.

9.6 RCS-e File Transfer in/out of network coverage

If during the File Transfer the sender or receiver goes out of network coverage, the transfer automatically stops and both sender and receiver receive an error notification with the retry option for the sender.

9.7 File Transfer optimisation via image compression (MANDATORY)

To improve the experience when transferring images, the RCS-e implementation shall offer an image compression/resizing option at point of send (typically the Chat window that gives context to the FT).

- After an image is selected for sharing, a popup shall inform the user of the possibility of resizing it to improve transfer speed.

- The default behaviour should be to send a resized image, however the user may opt for sending the picture in its full size.

- A 'don't ask again' option may be made available within the popup displayed at point of send.

- A related setting shall be created in the joyn settings menu to amend the default choice.

10. In call share workflow

10.1 Objective

To describe the joyn content (Video/Image) Share service workflow over a call.

10.2 Description

Content Share can only be launched within the voice call application. This application can also be used as a launch pad for other communication services.

During a Content Share it must be possible for either the sending or receiving party to stop the transfer. Stopping a Content Share does not impact the voice call, but terminating the call will also terminate any related Content Share activity.

▌ 10.3 In call share (MANDATORY)

The Video/Image Share option must be integrated in the native call interface.

On the call screen there must be two icons, one for Video Share and another for remaining Content Share options. The icons must adhere to the GSMA Digi Guide principles.

A share transaction initiated from either icon on the call screen can only be started if the receiving party accepts the share invitation.

The share functionality is always displayed but only enabled if the corresponding background capability exchange confirms that the receiver is joyn capable.

During a conference call, or if the user has the call forwarding option activated, the share option must be disabled.

During an active share the conference call function must be disabled.

When possible, the content that has been shared should be presented in full screen during the call if selected by the receiving or sending user. When displaying in full screen the pre-existing proportion ratios should apply to the file, and the file should not be stretched or expanded to fit the full screen.

11. joyn settings

11.1 Objective

To ensure the user has the capability to activate/deactivate joyn services. To fulfil the 'It just works' proposition, RCS-e should not require specific user settings prior to first use. Therefore default settings have to be applied. However, to keep the joyn communication under the user's control and to allow customisation, specific settings must be offered.

11.2 Description

The joyn settings screen should be a separate screen, accessible from the device's general settings screen. The joyn settings entry should be near the top of the options in the general settings screen.

The first setting should be the joyn master switch. If it is 'disabled', all other joyn settings should be visible but disabled/greyed-out as not selectable.

No joyn settings options should be visible if the device is not configured or the user has not accepted the Terms and Conditions.

11.3 joyn management menu/options

Within the standard OEM device settings a specific joyn settings menu item should be provided to offer central setting parameters to the user.

The joyn settings menu should only be visible if the device is configured.

The following settings should be offered within 'joyn settings' menu:

a) **joyn master switch**: The joyn master switch will provide the option to turn joyn services on or off. The default setting should be ON.

If the switch is turned off, it is suggested to display a timestamp indicating when the switch was turned off. If the master switch is disabled, then all joyn touch points and references should be hidden from the user, except the access to the Chat application, any content exchanged over joyn services (Chat history, transferred files, etc.) and the joyn management menu within the device's general settings.

b) **joyn notification profile** (please refer to section 7.9)

c) **joyn roaming control**: The RCS-e specification also defines a specific control of RCS-e traffic while on roaming. If a user chooses to turn off joyn when roaming, but maintains a data connection, the joyn master switch should be used manually.

d) **joyn blocking**: Provide access to a list with all the MSISDN contacts for which the user has blocked joyn services.

e) **joyn user alias**: Customise the label, which the user wants to be displayed when communicating with joyn contacts that do not have that user in their address books.

f) joyn specific user predefined settings: As an example, the default behaviour for the saving of in call Content Share (to store automatically or not).

g) joyn file transfer auto-accept: to control the behaviour of this functionality as described in section 9.4.2.1. When the functionality is activated by the network the following item shall be displayed in the settings menu:

- **FT auto-accept**: I/O (default value set to I), [subordinate]-FT Auto-accept while roaming: I/O (default value set to O)

h) joyn image resizing in file transfer: to control the default behaviour of this functionality as described in section 9.7. The suggested menu tree is:

- **FT image-resize:** 'always resize', 'always ask', 'never resize'

11.4 joyn network registration

In accordance with RCS-e 1.2 specifications, when the device starts up, it needs to register and retrieve initial configuration information from the network to provide the RCS-e services. In some scenarios this initial procedure can fail, rendering the RCS-e unusable. For this reason it is suggested that this process be repeated if failure occurs after a certain number of times and if the failure in registering against the network persists the user should be notified that joyn services are not available at that time.

The process of registering and retrieving initial configuration information should also be attached to the joyn master switch present within the joyn settings of the device to provide the necessary touch-point for users to manually initiate registration.

12. joyn roaming workflow

12.1 Objectives

To describe the RCS-e device behaviour and notifications presented to the user when in a roaming environment.

12.2 Description

joyn is a data based service. Although there are no roaming service agreements in place specifically for this service, the joyn devices should still be able to access and present users with joyn services (assuming the users have data access while roaming). It is important to specify and describe the use case scenarios and notifications associated with roaming to prevent mis-use and/or bill-shocks.

12.3 Automatic service deactivation/ suspension when roaming

As general rule it is advised that the usage of joyn under the roaming scenario follows as closely as possible the existing rules and behaviour for the general data connection whilst roaming.

When the user device registers as roaming, the suggested behaviour is to automatically disable joyn traffic and inform the user via a notification of this change. The notification should offer the option to reactivate joyn services.

The joyn roaming setting should present the following possible options:

1. **Always off** (default).

2. **Always ask** (inform the user via notification and allow for one touch activation or de-activation)

3. **Always on**.

Please refer to section 11.3 (b) for the RCS-e specific roaming control.

12.4 RCS-e service while roaming

If joyn is enabled during roaming there should be no difference to standard usage. If RCS-e is disabled during roaming no joyn service capabilities will be shown.

joyn applications like Chat and File Transfer are accessible, even when disabled, but the device will show a message that joyn service is currently not available because of roaming and invite the user to enable joyn services, advising of possible additional costs due to roaming.

Roaming notifications should follow the same scheme as the remaining joyn notifications as described in section 7.9.

joyn roaming notifications should have a high priority, as the user might be required to act. The joyn service might be disconnected, or the user might incur additional costs.

13. joyn accessibility

13.1 Objectives

To ensure that joyn services comply with existing accessibility guidelines for mobile devices.

13.2 Description

Many smartphones enable users to choose specific settings according to their preferences or needs. These settings are particularly important for disabled individuals who usually set parameters like print size, color scheme and activate specific tools (vocalisation tool, voice command capability, magnifying tool) through a dedicated accessibility menu.

To foster the usage of joyn, it is very important that these settings or tools are also available for joyn services.

This requires a full compatibility of joyn UI with preferred settings or accessibility enhancement tools available on the device.

The availability of accessibility settings or tools should be aligned with accessibility guidelines already present for other messaging services (SMS, IM or e-mail).

14. Multi-device/multi-client scenarios

14.1 Objectives

To ensure that a user is able to use joyn services on secondary devices sharing the same identity while preserving the consistency of the experience.

14.2 Associating a secondary device to an joyn identity (phone number)

Through this procedure a user will be able to 'pair' their joyn identity on several secondary devices and they will be able to start/receive joyn communication events from/on all their connected devices.

Once a user has associated a secondary device to their identity, all connected devices will receive notifications for the supported incoming joyn events. However, once the user actively participates to the communication from one of their devices, the communication will continue only on the 'active' device.

A user may have the possibility of disabling a specific service on a specific device (e.g. no Group Chat on a tablet).

The pairing is achieved by validating the user's identity by interacting with their primary device (typically the one where the user has their SIM card):

- At the first connection of a secondary device, the user will be prompted to input details of their main phone number and MNO.

- A validation message (SMS or End User Confirmation Request) will be sent to their primary device with a One Time Password (OTP).

- The user will have to enter the OTP in their secondary device to confirm identity and trigger registration.

14.3 Managing multiple clients on the same device

RCS-e in its current state only allows one RCS-e client at a time to run on a device.

To ensure the user is aware of this, and to protect the end user experience, the following is recommended:

- Whenever a user installs or opens an RCS-e implementation (App B) on a device on which another RCS-e implementation is active (App A), the user should be informed that there is another joyn client running, and the user is required to manually disable the active client before being able to use the new one.

- Any form of indication that helps the user to identify the incumbent RCS-e client and guides the user through how to deactivate it is considered highly beneficial.

The RCS-e technical specifications will be developed to introduce a robust multiple client handling capability, at which time the above recommendations will be revised.

Appendix 1: Language labelling

Screen	Function	English	Spanish	German	French	Italian	Feature status	Text status
Application list/home screen	Icon to open app	joyn	joyn	joyn	joyn	joyn	■ Mandatory - joyn app icon	■ Mandatory
Address-book	Indication of joyn user						■ Mandatory - service icon	none
Address-book	Button to select a list of joyn-only contacts	joyn contacts	Contactos joyn	joyn	joyn contacts		■ Mandatory	■ Optional
Contact card	Initiate a new Chat	Chat	Iniciar Chat	Chat	Chat	Chat	■ Mandatory - Chat icon	■ Mandatory
Contact card	Initiate a File Share	send file	Enviar fichero	Datei senden	partage de fichiers	Invia file	■ Mandatory - paperclip icon	■ Mandatory
Contact card	Block contact	block contact	Bloquear contacto	Kontakt sperren	contact bloqué	Blocca contatto	■ Recommended	■ Optional
Gallery	From Gallery, user wants to share file and has options (joyn, Bluetooth, Google+, Picassa etc.)	joyn	joyn	joyn	joyn	joyn	■ Mandatory - paperclip icon	■ Optional
File browser	From File Browser, user wants to share file and has options (joyn, Bluetooth, Google+, Picassa etc.)						■ Mandatory - paperclip icon	■ Optional
Chat screen	Initiate a new Chat	Chat	Iniciar Chat	Chat	Chat	Chat	■ Mandatory	■ Optional joyn
Chat screen	Blocking a contact	block contact	Bloquear contacto	Kontakt sperren	contact bloqué	Blocca contatto	■ Recommended	■ Optional
Chat screen	End Chat	end	Finalizar Chat	Chat schliessen	Quitter	Abbandona Chat	■ Mandatory	■ Mandatory
Chat screen	Initiating Group Chat	OEM's Group Chat icon	OEM's Group Chat icon	OEM's Group Chat icon	OEM's Group Chat icon	OEM's Group Chat icon	■ Mandatory functionality - OEM choice of icon	■ Optional
Chat screen	Notification that a party has joined the Chat	[contact name] has joined	[Contact name] se ha unido al Chat	[contact name] ist im Chat	[contact] a rejoint la conversation	[contact name] partecipa alla Chat	■ Mandatory	■ Optional
Chat screen	File Share						■ Mandatory paperclip icon	■ Optional

Screen	Function	English	Spanish	German	French	Italian	Feature status	Text status
Chat screen	Message when waiting for acceptance	pending	Esperando confirmación	warten auf Annahme	en attente d'acceptation	Attesa partecipanti	■ Mandatory	■ Optional
Chat screen	Request for acceptance	[x] wants to send file	[x] desea enviarle un fichero	[x] möchte eine Datei senden	[x] souhaite vous envoyer un fichier	[x] ti sta inviando un file	■ Mandatory	■ Mandatory
Chat screen	Transferring file	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	■ Mandatory	■ Optional
Chat screen	Receiving file	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	■ Mandatory	■ Optional
Chat screen	Transfer complete	transfer complete	Envío completado	Versand erfolgreich	Téléchargement terminé	Invio/ricezione completato	■ Mandatory	■ Optional
Chat screen	File transfer declined	file declined	Ha fallado el envío del fichero	Versand abgelehnt	Partage de fichiers refusé	File rifiutato	■ Mandatory	■ Optional
Chat screen	File transfer failed	transfer failed	Error en el envío del fichero	Versand abgebrochen	Echec lors du transfert de fichiers	Trasferimento file interrotto	■ Mandatory	■ Optional
Call screen	Video Share - label on the Video Share icon	live video	Compartir video	Kamera zuschalten	partage de vidéo	Aggiungi video	■ Mandatory	■ Mandatory
Call screen	Message when waiting for acceptance	waiting for acceptance	Esperando confirmación	warten auf Annahme	en attente d'acceptation	Attesa	tbc	tbc
Call screen	Request for acceptance	[x] wants to share video	[X] desea compartir video	[x] möchte seine Kamera zuschalten	[x] souhaite partager une vidéo avec vous	[x] sta condividendo il video	■ Mandatory	■ Optional
Call screen	Video Share declined	video declined	Ha rechazado el video	Kamera zuschalten abgelehnt	Partage de vidéos refusé	condivisione video rifiutata	■ Mandatory	■ Optional
Call screen	Video share failed	video failed	Ha fallado el video	Übertragung abgebrochen	Echec du partage de vidéos	errore nella condivisione video	tbc	tbc
Call screen	Imageshare - label on the image share icon	picture share	Compartir imagen	Bild versenden	Partage de photos	Condividi	■ Mandatory	■ Mandatory
Call screen	Waiting for acceptance	pending	Esperando confirmación	warten auf Annahme	en attente d'acceptation	Attesa	tbc	tbc
Call screen	Request for acceptance	[x] wants to share picture	[X] desea compartir una foto	[x] möchte ein Bild senden	[x] souhaite partager une photo avec vous	[x] sta condividendo un'immagine	■ Mandatory	■ Optional

Screen	Function	English	Spanish	German	French	Italian	Feature status	Text status
Call screen	Transferring file	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	🟥 Mandatory	🟦 Optional
Call screen	Receiving file	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	OEM's choice of progress bar design	🟥 Mandatory	🟦 Optional
Call screen	Transfer complete	transfer complete	Envío completado	Übertragung erfolgreich	Téléchargement terminé	n/a	🟦 Optional	🟦 Optional
Call screen	File transfer declined	file declined	Ha rechazado el fichero	Versand abgelehnt	Refus du partage de fichiers	condivisione immagine rifiutata	🟥 Mandatory	🟦 Optional
Call screen	File transfer failed	transfer failed	Ha fallado el envío del fichero	Versand abgebrochen	Echec du partage de fichiers	errore nella condivisione immagine	🟥 Mandatory	🟦 Optional

Document Management

Document History

Version	Date	Brief Description of Change	Approval Authority	Editor/Company
0.1	17 Feb 2012	First complete draft for RCE LT review	RCE LT	P Custodio, Vodafone
0.2	24 Feb 2012	Amendments following review, alignment w/ IOT Implementation Guideline	DAG, EMC	D. O'Byrne, GSMA
1.0	19 March 2012	Submitted to DAG and EMC for approval, final approval date 12th April 2012	EMC	D. O'Byrne, GSMA
1.1	29th June 2012	Amendments following E5 review		Florent Stroppa, Vodafone
1.2	03 July 2012	For approval after incorporation of joyn Albatross key changes	Product TT	Leonardo Lombardi, Vodafone, D. O'Byrne, GSMA

Other Information

It is our intention to provide a quality document for your use. If you find any errors or omissions, please contact us with your comments. You may notify us at prd@gsm.org

Your comments, suggestions and questions are always welcome.

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