RCS-e open source stack

Roadmap

Edition 17.0

Date: 20/12/2011

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History…

- 2007 / First RCS stack for J2ME platform.

- 2008-2009 / RCS 1.0 stack:
    - GSMA IOT: Helsinki (2008) / First participation.
    - GSMA IOT: Paris (2009).
    - GSMA IOT: Munich (2009).

- Jan. 2010 / First RCS stack for Android platform.

- 2010 / RCS 2.0 stack:
    - GSMA IOT: Paris (2010).
    - GSMA IOT: Beijing (2010).
    - GSMA IOT: Madrid (2010).

- Jan. 2011 / RCS 2.0 stack:
    - GSMA IOT: Helsinki (2011).
    - OrangeLabs stack is taken as Reference Implementation by GSMA.

- Feb. 2011 / Integrate the same SIP stack as Google Android 2.3.

- March 2011 / RCS-e stack implementation based on 2.0 stack started.

- April 2011 / First RCS-e 1.1 release available.

- Mai 2011: RCS-e stack published to open source community.

- End of 2011: native integration by several device manufacturers.

Open source project

- Open source published at:

  http://code.google.com/p/android-rcs-ims-stack/
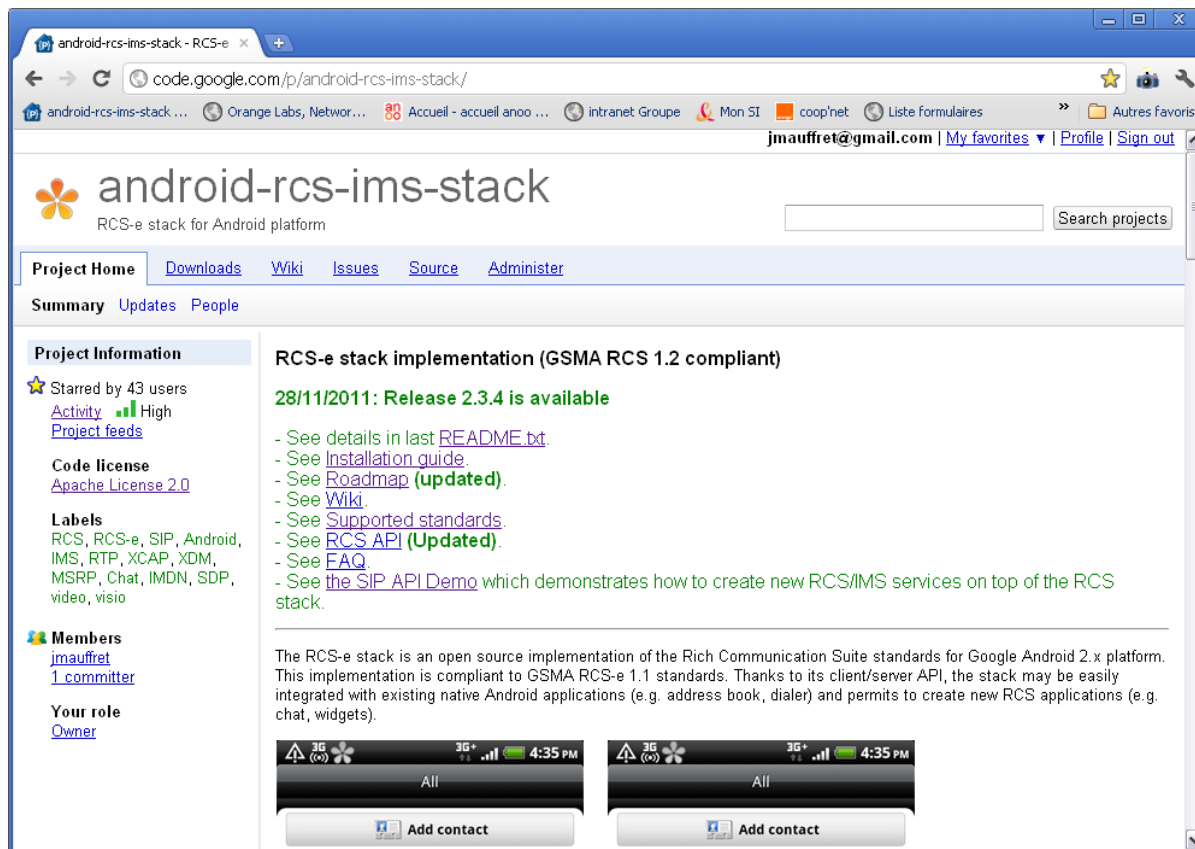
Roadmaps

Roadmap 2011

- ## April 18: Sprint 0
    - First RCS-e release.

- ## May 02: Sprint 1
    - Update capabilities in case of error, end of session.
    - Adapt capabilities thanks to network coverage.
    - Registration management in case of failure.
    - H264 software codec (from Android opencore package).
    - Visio share from 2 individual video share sessions.

- ## May 15: Sprint 2
    - IMDN and message delivery report ("delivered", "displayed").
    - Add 1/N participants.
    - Close a chat session after an inactivity timeout.
    - OTA provisioning with WAP PUSH event and direct HTTP download of XML config.

- ## May 30: Sprint 3
    - RTCP event management.
    - H264 packetizer.
    - Store & Forward procedure management via WAP PUSH event.

Roadmap 2011

- **June 15: Sprint 4**
  - Session refresh management (RFC 4028).
  - Spam folder for message received from blocked contacts.
  - Use an alias (i.e. display name) to initiate sessions.
  - RCS API permission checking.
  - Dynamic discovery of RCS extensions.
  - SIP keep alive if a NAT is auto detected.

- **June 30: Sprint 5**
  - Capabilities discovery enhancement to support large address book.
  - SIPS (SIP over TLS).
  - Refactoring of the contacts database provider (use of batch procedures).
  - Android makefile and RCS API jar file.

- **July 30: Sprint 6**
  - NAT traversal support (RFC6135, draft-ietf-simple-msrp-sessmatch-11).
  - GRUU for multidevice support.
  - Block FT if contact is blocked.
  - New methods in chat API.
  - RCS widget.

Roadmap 2011

- **August 15: Sprint 7**
  - RCS API minor updates.
  - New call flow to add a participant in a 1-1 chat (move from a 1-1 session to a 1-N session).
  - Generic SIP API to open the stack for new IMS services implementation.

- **August 31: Sprint 8**
  - Registration retry mechanism.
  - Bug corrections.

- **September 15: Sprint 9**
  - Bug corrections.
  - RCS API evolutions.

- **October 03: Sprint 10**
  - Integrate CR (Change Request) from GSMA.
  - Bug corrections.

- **October 20: Sprint 11**
  - Bug corrections.
  - Store & Forward tests.
  - Integrate CR (Change Request) from GSMA.

Roadmap 2011

- **November 21: Sprint 12**
    - Bug corrections.

- **December 20: Sprint 13**
    - Bug corrections.
    - Findbugs report.

Roadmap 2012

- **January 16: Sprint 14**
    - IOT tests.
    - End user confirmation requests to accept terms of use.
    - HTTPS provisioning module.
    - Findbugs report.

- **January 30: Sprint 15**
    - IOT tests.
    - IPv6 tests (depends of platform availability).

- **…**

- **…**

- **Q2/Q3: new features based on GSMA RCS-e V2 specifications**

Features not yet planned

- Secured media (MSRP, RTP).
- Specific APN in roaming.
- OMA-DM provisioning.
- LTE support.

Main features list

Capability discovery

- Capability discovery via SIP OPTIONS.
- Capability discovery via Anonymous fetch.
- Periodic polling.
- First time discovery.
- Address book monitoring.
- Integration into native address book.
- Supported capabilities: CS video, IM, FT, Image share, Video share, Presence discovery, Social presence, RCS extensions.
- Update capabilities in case of error, end of session.
- Adapt capabilities thanks to network coverage.

Chat 1/2

- Chat 1-1.
- Chat group.
- File transfer.
- Chat and file transfer history.
- Multi-session management.
- Is-composing.
- List of participants in the session.
- Add 1 participant.
- Add N participants.
- Conference event subscription.
- Support of plain text UTF-8 format.
- Support of message/CPIM format.
- IMDN and message delivery report ("delivered", "displayed").

Chat 2/2

- Block/unblock contacts (black list).
- Spam folder for message received from blocked contacts.
- Store & Forward.
- Use an alias to initiate a chat session.
- Close a chat session after an inactivity timeout.

Richcall

- Image sharing.
- Live video & pre-recorded video sharing.
- Capability exchange during call.
- Call monitoring.
- H263 file parser.
- H263+ software codec (from Android opencore package).
- H.264 packetizer.
- H264 software codec (from Android opencore package).
- RTCP event management.
- Visio share from 2 individual video share sessions.
- Stop sharing if call hold or if a multiparty call (see new API methods).

Social presence

- Resource lists management (granted/blocked/revoked).
- Profile sharing management (status, photo-icon, freetext, favorite link, geoloc).
- Notifications management.
- Permanent and partial profile

Misc.1/2

- Address book integration via ContactContract API.
- Event log history (one content provider which aggregates Call/SMS/MMS/Chat & FT per contact).
- RCS account based on SyncAdapter API.
- Presence is now an optional package which may be activated by configuration.
- RTP stack is now part of the media player to avoid AIDL exchange between UI and stack.
- New SIP stack (NIST SIP stack deployed under Android 2.3).
- Backup and restore last RCS info if user account has changed.
- OTA provisioning via WAP PUSH SMS & HTTP/XML download.
- Session refresh management.

Misc. 2/2

- Support of GIBA & HTTP Digest for IMS attachment.
- Support several network access: mobile or Wi-fi.
- RCS API for multi-applications context.
- SIPS
- GRUU for multidevice management.

Implementation

Software architecture

Applications

| Address Book | Dialer | Widget | Chat view | ... |

RCS API (AIDL interface / Intents / Database providers)

🌸 **RCS-e stack**

Contacts   Chat   Chat history

Capabilitiy discovery   Social presence   Richcall   Event log   Richcall history   RCS settings

Anonymous fetch manager   Options manager   IMS service dispatcher   Conference event manager   Content Sharing

Network access manager   Registration manager   User account manager   Call monitoring   OTA provisioning

SIP stack (NIST)   SDP stack   MSRP stack   RTP stack   XCAP stack

Supported standards

■ See list of supported standards at:

http://android-rcs-ims-stack.googlecode.com/svn/trunk/core/SUPPORTED-STANDARDS.txt

Metrics
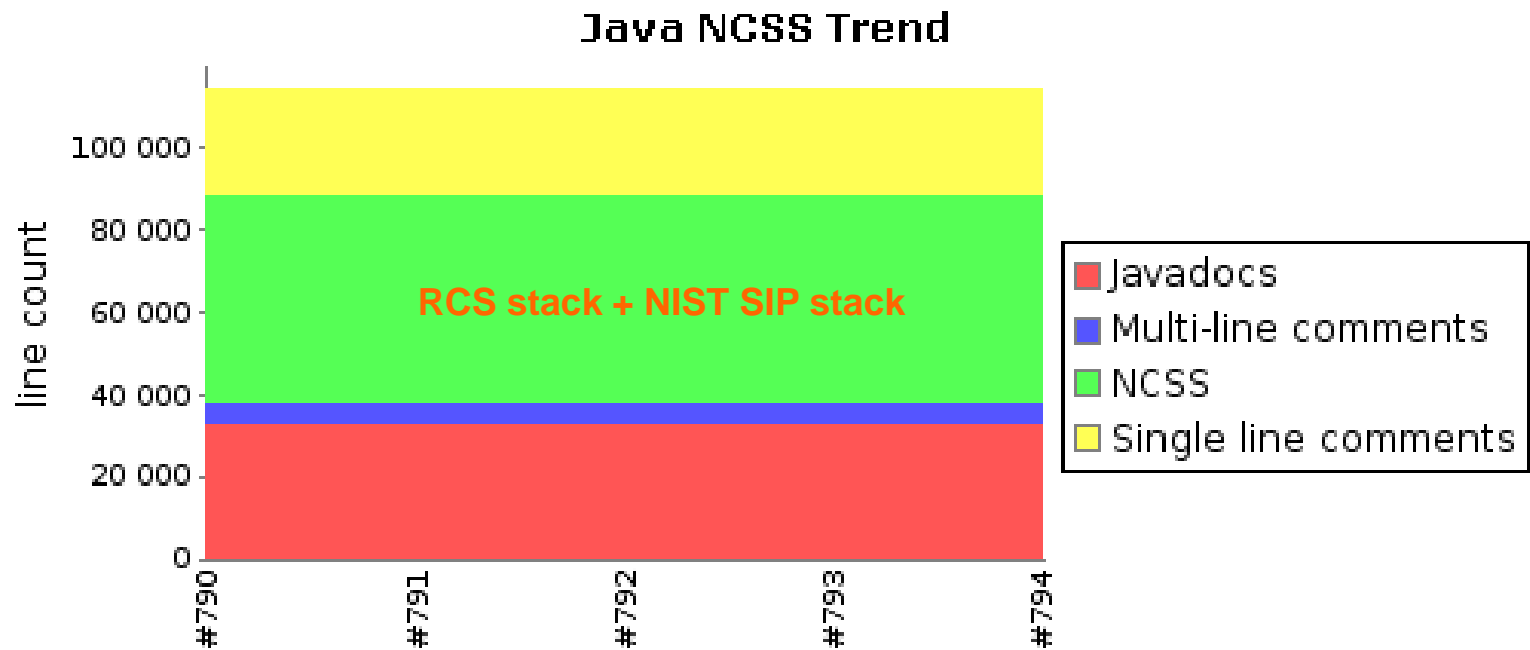
Tools

- Bug tracking via Mantis.
- Continueous Integration via Hudson.
- RI application which offers a low level UI interface to test RCS stack and its protocols:
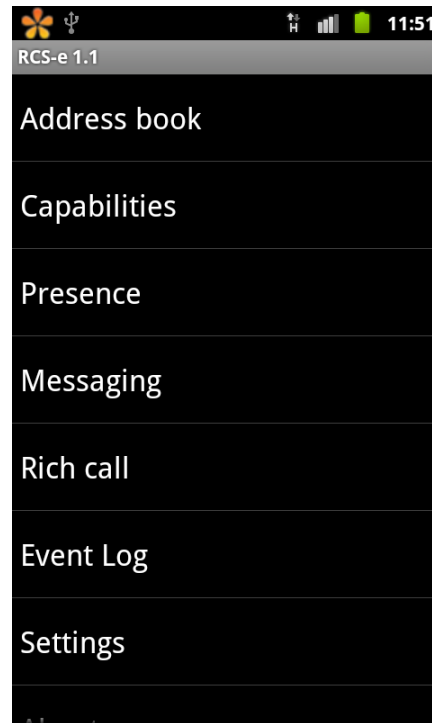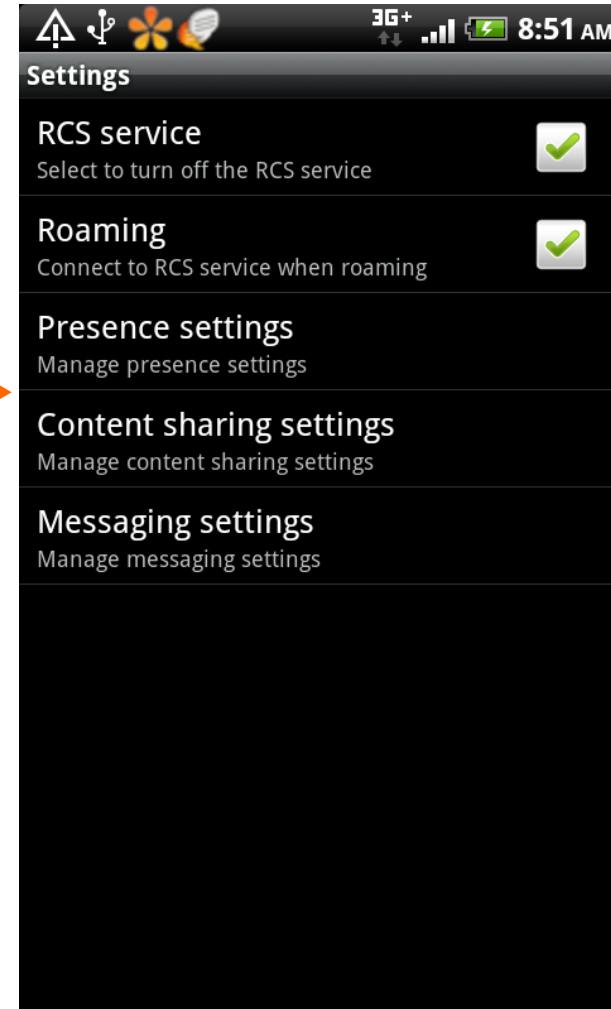

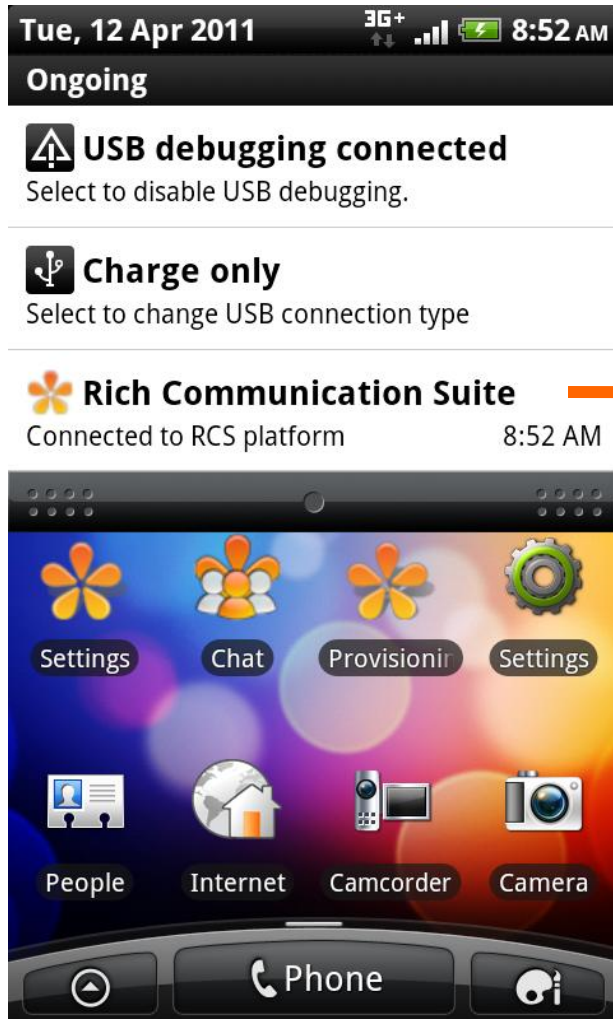RI application

RCS-e applications Screenshots

RCS account
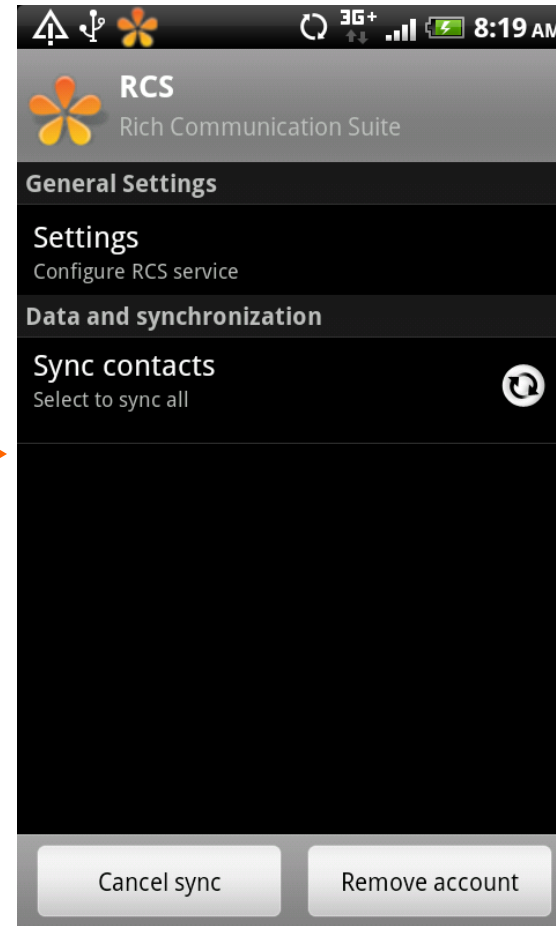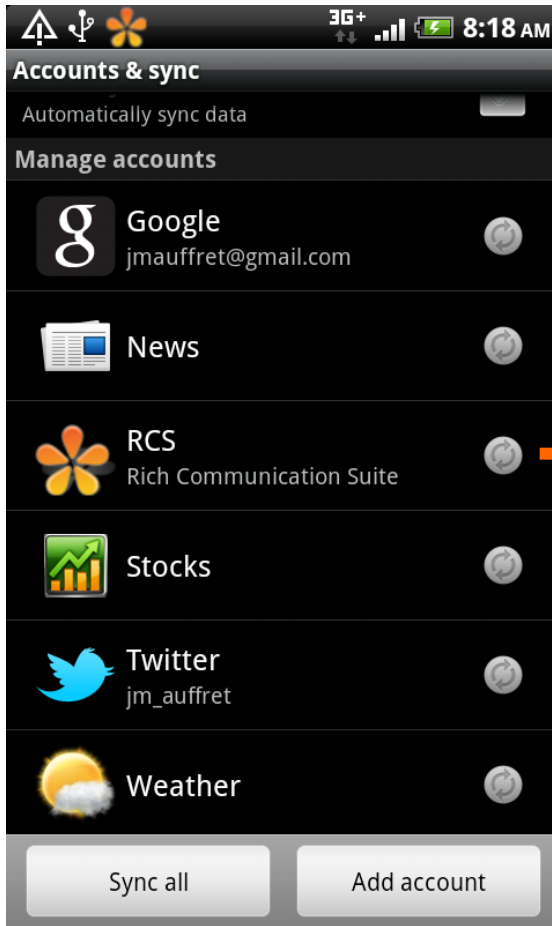
RCS settings

Native address book integration 1/2

Native address book from HTC
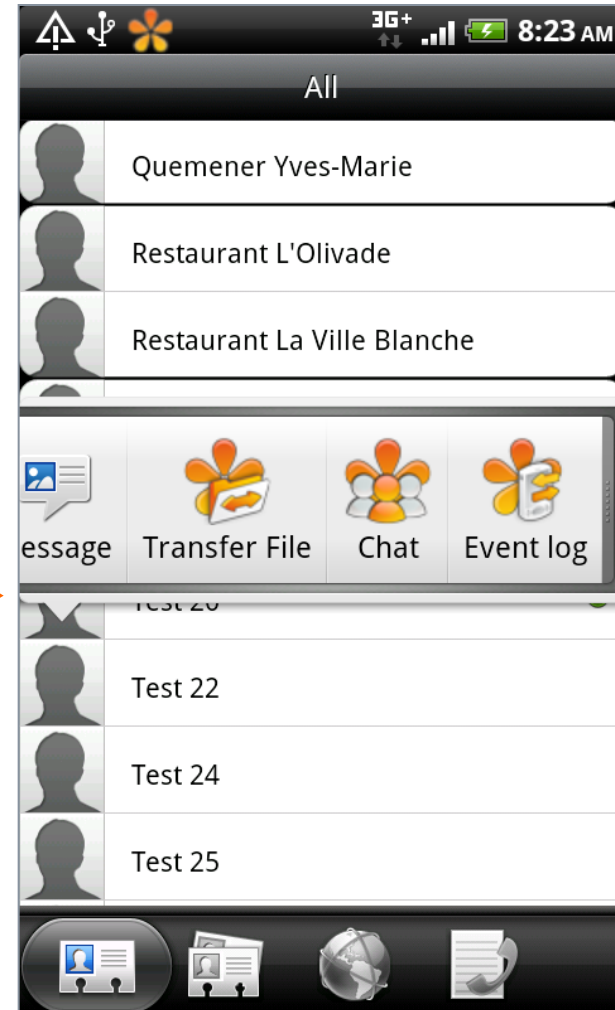
Local provisioning application

Only for debug