

OrangeLabs RCS-e stack



Roadmap 2011

Edition 15.0

Date: 22/11/2011

Author: Orange Labs, ASC Devices



Orange Labs



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.



RCS-e features list

(not exhaustive)

Note:

See in **green color**, features which has been already implemented and tested.

See in **orange color**, features which has been already implemented but not yet tested.

See in **default color**, features which are not yet implemented.



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).
- H264 file parser. -> Postponed because pre-recorded H.264 file not used with QCIF format in Android apps
- 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

- This package is optional in RCS-e.
- Same features as RCS 2.0.



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.
- Secured media transport protocol (MSRP, RTP).
- IPv6 support.
- Roaming APN.



Roadmap



Roadmap

■ 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

■ 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

■ 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

■ November 21: Sprint 12

- Bug corrections.

■ December 5: Sprint 13

- Bug corrections.
- IOT tests if devices available.
- IPv6 (depends of platform availability).



Features not yet planned

Some RCS-e features are not yet planned:

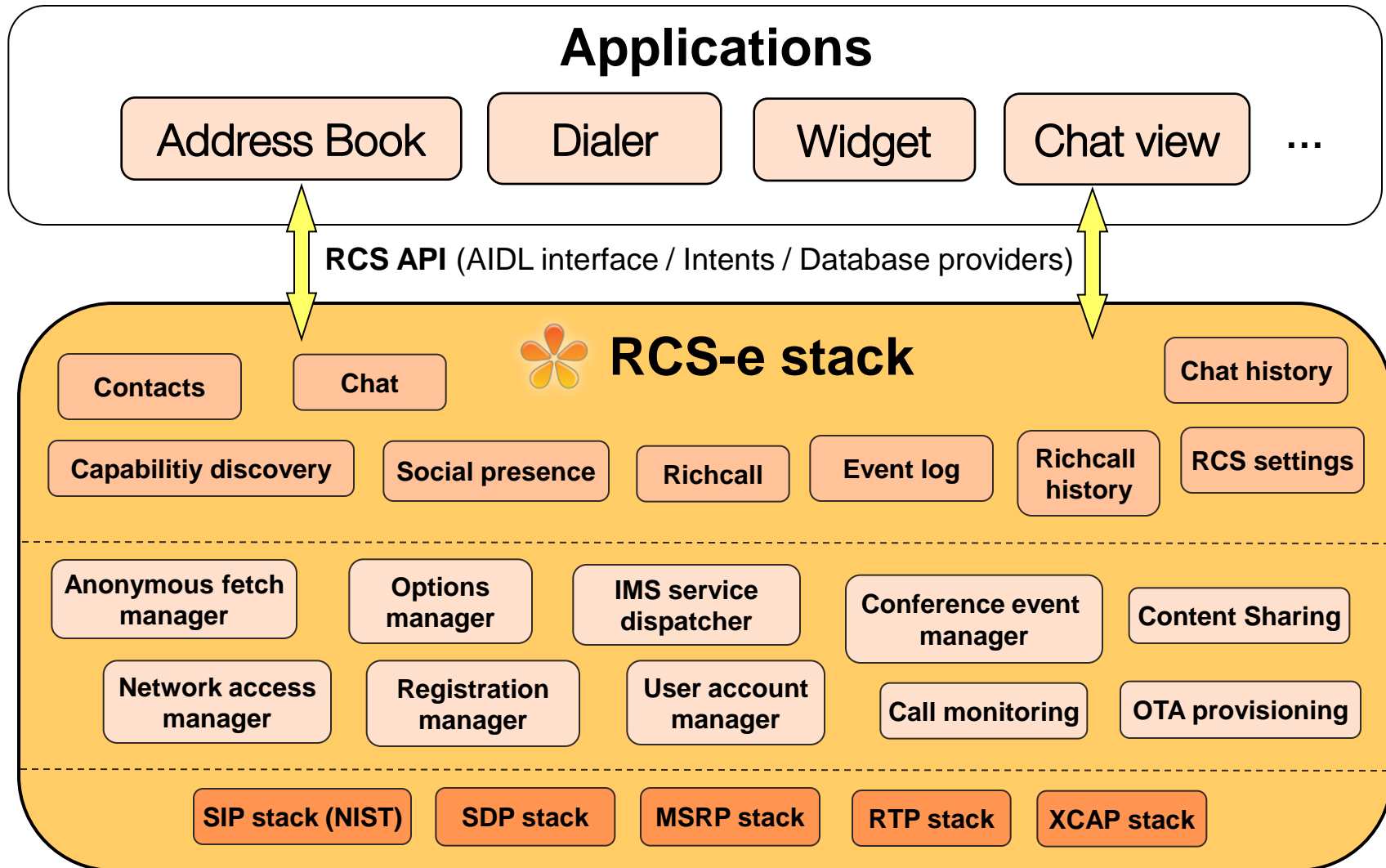
- Secured media (MSRP, RTP).
- Specific APN in roaming (see chapter 2.10 of the RCS-e 1.1 standard : to be confirmed).
- OMA-DM.
- LTE support (see chapter 2.12 of the RCS-e 1.1 standard).



Implementation



Software architecture



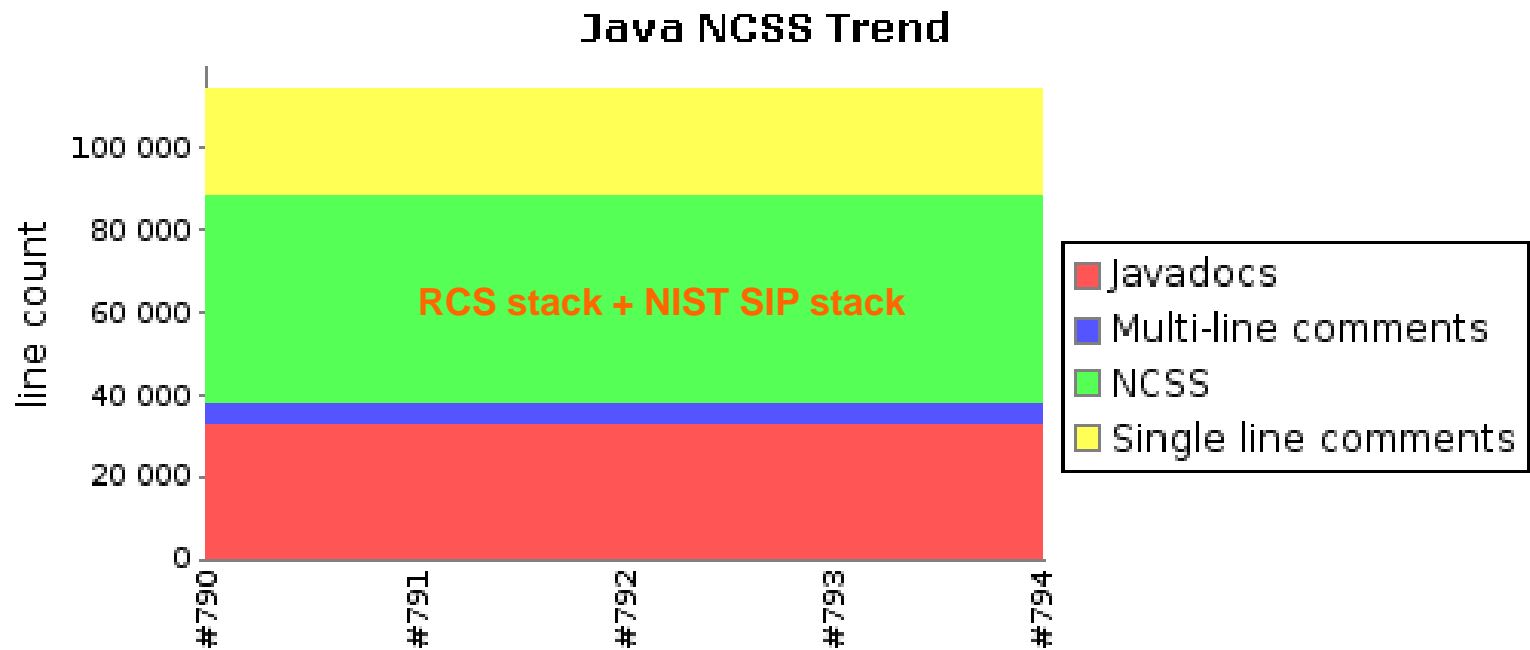
Supported standards

- See list of supported standards at:

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

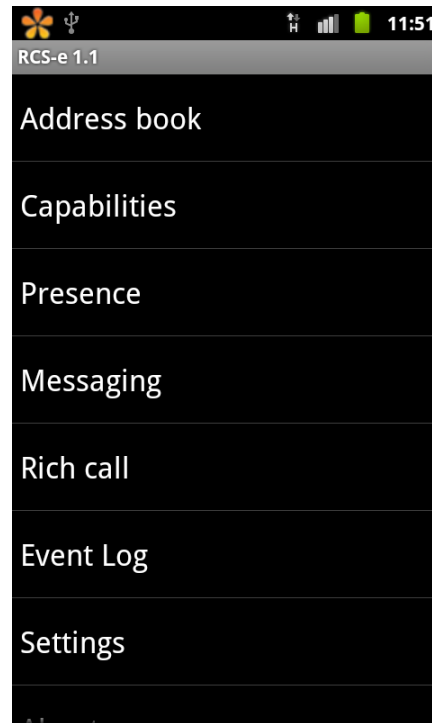


Metrics



Tools

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



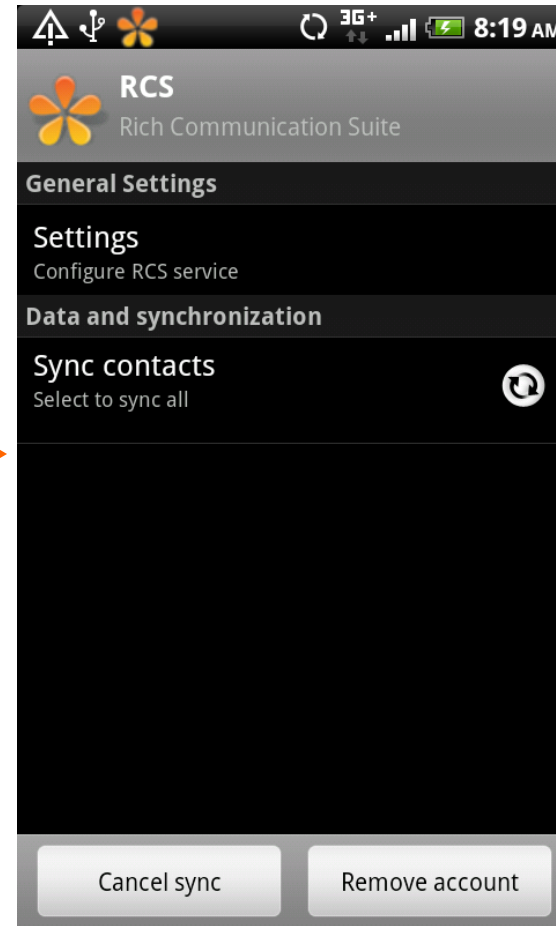
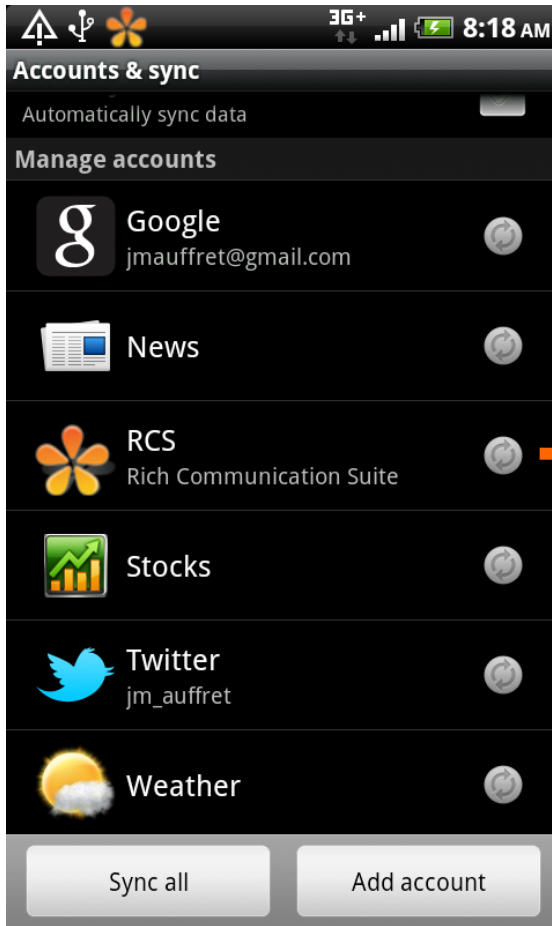
RI

RCS-e applications

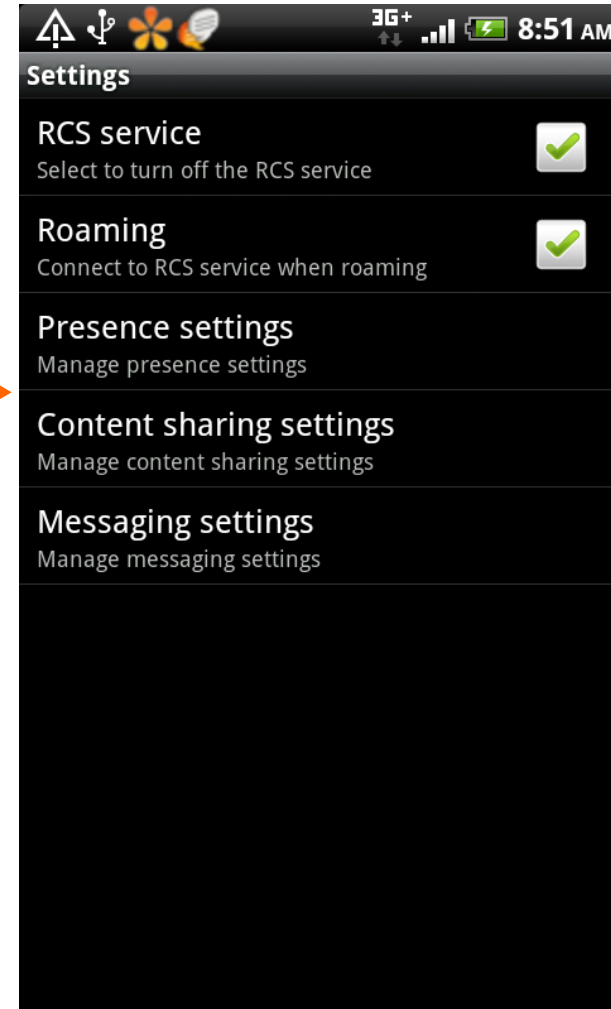
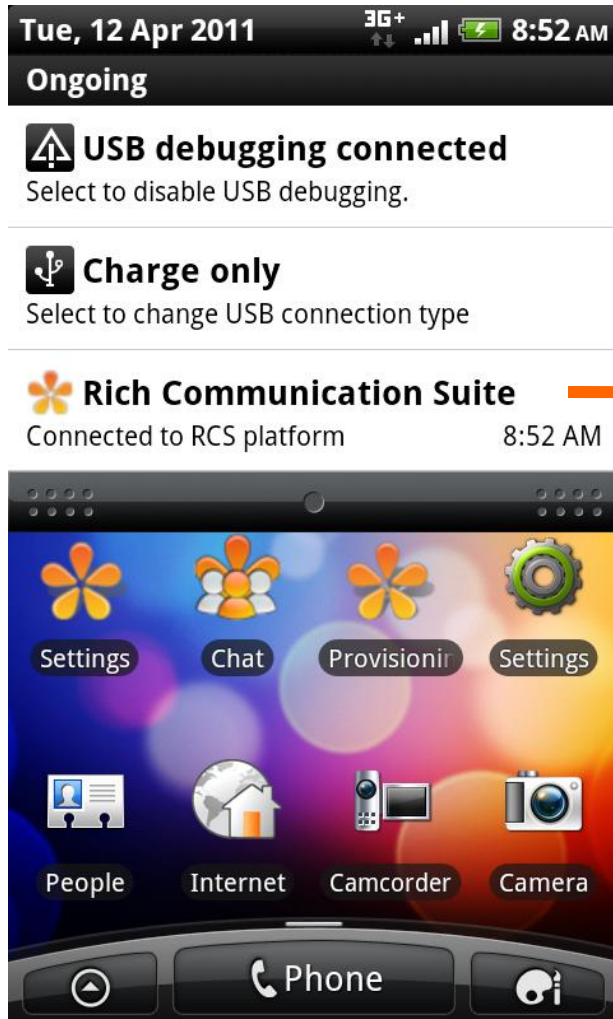
Screenshots



RCS account

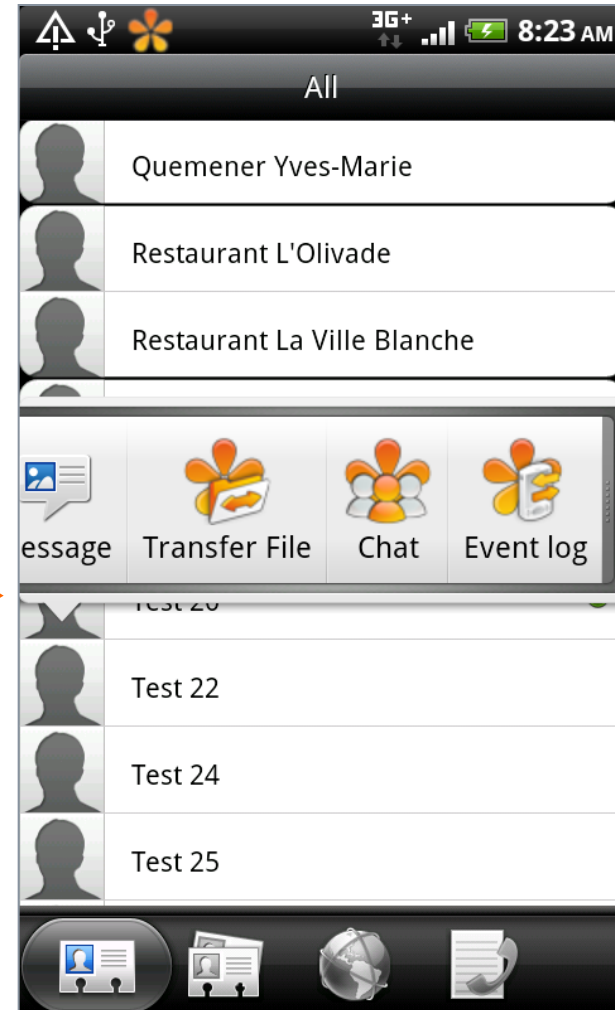
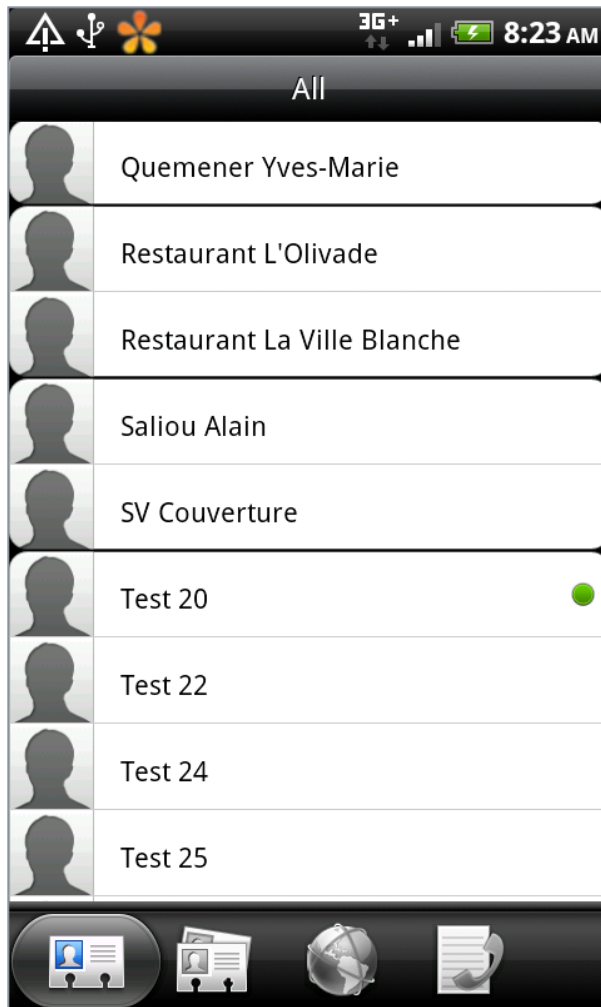


RCS settings



Native address book integration 1/2

**Native
address
book
from HTC**



Local provisioning application

Only for debug

Provisioning

Profile Stack Service Logger

IMS authentication procedure:
DIGEST

IMS username:
+34890890022

IMS display name:
+34890890022

IMS private URI:
+34890890022@sip.osp.com

IMS password:
nsnims2008

IMS home domain:

Provisioning

Profile Stack Service Logger

Is-composing timeout for chat (seconds):
15

Session refresh expire period (seconds):
3600

Capability refresh timeout (seconds):
86400

Capability polling period (seconds):
3600

Capability discovery mode:
options

☒ Rich call mode

Provisioning

Profile Stack Service Logger

☒ Trace activation

☒ SIP trace activation

☒ Media trace activation

Trace level:
DEBUG

Save

