Juphoon RCS solution can provide both SDK and Application to operators, device manufacturers and industry players.

Juphoon RCS client is a standard-compliant client for PC and mobile handsets. It is fully compliant with RCS 5.1 specifications based on IETF, OMA, 3GPP, GSMA standards. And it reaches joyn accreditation with Hot Fixes (RCS-e 1.2.2). Developed with Juphoon RCS SDK, the cross-platform client delivers an enhanced communication experience to end users over all IP networks and on varied devices, with excellent interoperability and premium voice and video performance.
Core Features

Easy to use

Juphoon RCS SDK is simple and user friendly. Its user interfaces are named in an intuitive way and can be directly integrated with GUI logic. Thus it is quite easy to use and only a few couple lines of code are needed to realize a function. The SDK is delivered with professional technical documents and support which can help you to launch competitive client products asap.

Excellent Compatibility and Interoperability

Supported OS

Windows (XP, 7, 8), Android (2.3-4.x), iOS(5.x - 7.x), Linux, etc.

Supported devices

Android mobile, Android tablet, PC, and iPhone (4, 4S, 5, 5s, 5c), iPad (2, 3, 4, mini),
Interoperability

Juphoon RCS/joyn solution is interoperable with following RCS servers and networks.

Premium voice and video quality

A superior multimedia engine is embedded to support HD voice and video call and ensure the best possible calling experience for every user, though they may use different devices and/or call over unreliable or heterogeneous wireless networks.

Transfer smaller images to devices with lower resolution and/or performance to achieve smooth experience.

Transfer larger images to capable devices for outstanding HD video experience.

Clear and smooth; even on unstable networks

SPo enables perfect adaptation of video transfer to bandwidth fluctuation, helping deliver clear and smooth video experience, even over unstable and/or heterogeneous networks.

Reduce video call data usage

Bandwidth efficient mode is applied to reduce video call data usage by 30% up to 90% off, without a perceptible decrease in video quality.

Adapt video quality to device capabilities

MDM can help optimize video quality to match device capabilities automatically, thus delivering best possible video quality on all supported devices and reducing deployment costs.

Architecture

![Architecture Diagram]
# Specification

## Auto-Configuration
- Auto-provisioning for mobile, tablet, PC;
- Primary device provisioning
- Secondary device provisioning

## Voice Processing
- Codecs: G.711, G.722, G.729, iLBC, ISAC, AMR-NB/WB, Opus
- AEC
- AEC
- ANS
  - NS-MIC, Noise Suppressor for Microphone
  - NS-SPEAKER, Noise Suppressor for data from network
- AGC
  - AGC-MIC, Auto Gain Control for Microphone
  - AGC-SPEAKER, Auto Gain Control for Speaker
- VAD (Voice Activity Detection)
- CNG (Comfortable Noise Generation)
- PLC (Packet Loss Concealment)
- FEC, RED, ARS
- DTMF
  - Inband ITU Q.23
  - Outband RFC2833
- IR92 3.3
- Very Fast Adaptive Jitter Buffer
- Front End Handling in IR92 3.2.7
- Voice quality diagnosis

## Video Processing
- Codecs: H.264, H.265, H.263, VP8
- FEC (Forward error correction)
- RED (Redundancy)
- TMMBR/TMMBN
- SPr (Sweet Point Control)
  - ARS (Auto bit Rate Sensing)
  - FrameRate Auto Control
  - Resolution Auto Control
- FIR (full intra frame request)
- Color Enhance
- Render
  - Render in Isolated Window
  - PIP Picture in Picture
  - External Render
  - Adaptive Jitter Buffer
  - Packet Lost, PLC Packet Loss Concealment
  - Video quality diagnosis

## Content Sharing
- File transfer
  - Store & Forward
  - Thumbnail, notification
  - Image sharing
  - Live video sharing
  - Location sharing

## XML Document Management Client
- Resource lists
  - Multiple device
  - Permanent presence
  - Multiple device
  - Presence rules
  - RLS-services
  - Personal network blacklist

## Contact & Presence
- Network Buddy (OMA)
- Availability, geolocation portrait icon, nickname, etc.
  - Supporting RLS and watcher-info subscription
  - Add/delete/black user, blacklist

## Supported OS
- Windows XP, 7, 8
- Linux
- Android 2.3 up to 4.x
- iOS 5.x up to 7.x
- Mac OS X
- Symbian S60

## Messaging
- Instant Messaging of SIMPLE and CPM
  - Pager Mode
  - Large Mode
  - Session based 1-1/group chat
  - Standalone messaging
  - Deliver, display notification;
  - Deferred message
  - Composing status

## Capability Discovery
- Capability discovery
  - SIP OPTIONS
  - Presence Sever
  - Capability exchange
  - Pushing and polling
  - Dual-stack capability interworking

## Protocol
- SIP (UDP, TCP, TLS)
- SDP
- DNS
- RTP/RTCP/SRTP
- MSRP (TCP, TLS)
- HTTP (TCP, TLS)
- XCAP
- IMAP (TCP, TLS)
- STUN/TURN/ICE for NAT traversal

## Security
- SIP DIGEST and IMS AKA
- HTTP DIGEST
- IPSec

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