Juphoon

Datasheet

VoLTE SDK

We are dedicated to providing Usable, Simple and Elegant (USE) communication products and solutions.

A superb VoLTE solution that will help you boost data revenues and attract new customers

As the world is moving toward Long Term Evolution (LTE), Voice and Video over LTE (VoLTE) based on IMS network is widely acknowledged as the optimal voice solution for LTE and the key to providing premium voice and rich communication services in the age of 4G. Worldwide operators, device and chip manufacturers desire to launch competitive VoLTE applications.

Juphoon VoLTE SDK embraces resource-efficient voice and video codecs and advanced QoS technology, delivering superior voice and video calling service, IM and other RCS/RCS-e services. And it supports SRVCC (Single Radio Voice Call Continuity) that enables continuity of service by seamlessly switching to a 3G/2G network. Our VoLTE solution can help operators migrate to IMS services seamlessly and device manufacturers integrate native VoLTE applications rapidly.

Support SRVCC

Deeply integrate with Android OS and Codecs like H.264 and AMR-WB

HD and smooth video call

- A native VoLTE App solution for LTE device and chip manufacturers
- Help operators to seamlessly migrate to provide IMS-based services

Core Features

Easy to use

Juphoon VoLTE 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 supports that can help you launch competitive client products asap.

Excellent compatibility and interoperability

Supported OS

Windows (XP, 7, 8), Android(2.3-4.x), iOS(5.x, 6.x, 7.x), Linux, ThreadX etc.

Supported devices

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

Interoperability

Compliant with VoLTE open standards of 3GPP, GSMA IR.92/94, IETF and OMA, the SDK is interoperable with servers of Ericsson, Mavenir and Alcatel-Lucent and can work with operators' LTE network, VoLTE servers and SBC.

Alcatel·Lucent ERICSSON MAVENIR SYSTEMS metroPCS Wireless for All.

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.

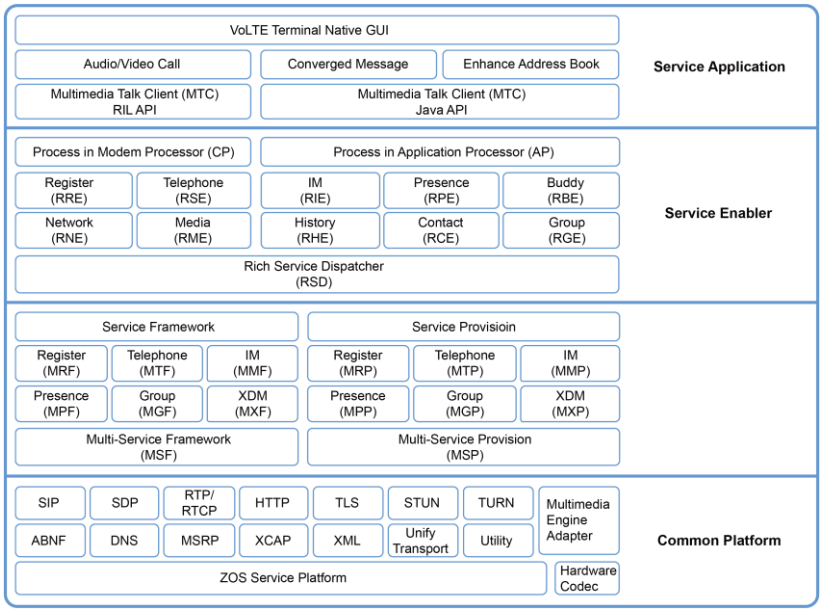
Reduce video call data usage

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



Specification

IMS Message

- Local service numbers in non-international format
- P-Called-Party-ID
- P-Associated-URI
- P-Preferred-Identity
- P-Asserted-Identity
- P-Preferred-Service
- P-Asserted-Service
- P-Access-Network-Info
- P-Profile-Key
- SIGCOMP

Authentication

- SIP/HTTP Digest Authentication
- ISIM Based Authentication
- USIM Based Authentication
- Authentication
- NASS-IMS bundled authentication
- GPRS-IMS-Bundled authentication
- Network-initiated re-authentication

3GPP MMTel

- Originating Identification Presentation (OIP)
- Originating Identification Restriction (OIR)
- Terminating Identification Presentation (TIP)
- Terminating Identification Restriction (TIR)
- Communication Forwarding Unconditional (CFU)
- Communication Forwarding on not Logged (CFNL)
- Communication Forwarding on Busy (CFB)
- Communication Forwarding on not Reachable (CFNRc)
- Communication Forwarding on No Reply (CFNR)
- Barring of All Incoming Calls (ICB)
- Barring of All Outgoing Calls (OCB)
- Barring of Outgoing International Calls(OICB)
  Barring of Outgoing International Calls – ex Home Country (OICBe)
- Barring of Incoming Calls - When Roaming (ICBr)
- Communication hold (HOLD)
- Communication barring (CB)
- Message waiting indication (MWI)
- Communication Waiting (CW)
- Conference (CONF)
- Explicit communication transfer (ECT)

Registration/De-registration

- IMS registration
- Registration information flow – User not registered
- Implicit Registration for UE without ISIM or IMCRegister Event Subscription
- Initial registration
  Re-Registration information flow – User currently registered
- Registration of an additional public user identity
- Mobile initiated de-registration
- Network initiated de-registration

Network

- IPv4
- IPv6

Protocols

- SIP
  - UDP/TCP/TLS
  - MTU apply of RFC3261 18.1.1, 3GPP TS 24229 4.2A
- SDP
  - SDP offer/answer for voice media of IR92 2.4.3
  - SDP offer/answer and re-negotiation of IR92 3.2.2
- RTP/RTCP
  - RTP Profile of IR92 3.2.2
  - Data Transport of IR92 3.2.3
  - RTCP Usage of IR92 3.2.4
  - SRTP
- DNS Query
- IPSec
- Network Address Translation traversal in access network (NAPT)
  - 3GPP TS 23228 4.12

Voice Media

- Codecs: G.711, G.722, G.729, iLBC, iSAC, AMR-NB/WB, Opus
- AEC/Adaptive AEC, AES
- 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(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 Media

- Codec: H.264, H.265, H.263, VP8
- FEC (Forward error correction)
- RED (Redundancy)
- TMMBR/TMMBN
- SPo (Sweet Point Control)
  - ARS(Auto bit Rate Sensing)
  - Framerate Auto Control
  - Resolution Auto Control
- FIR(full intral frame request)
- RPSI
- 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

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