VoLTE/ViLTE客制化说明

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# Introduction

本文用于说明自研feature VoLTE/ViLTE客制化说明，包括功能描述，修改的代码，feature开关及如何客制化。

VoLTE是基于IMS的语音业务。IMS由于支持多种接入和丰富的多媒体业务，成为全IP时代的核心网标准架构。经历了过去几年的发展成熟后，如今IMS已经跨越裂谷，成为固定话音领域VoBB、PSTN网改的主流选择，而且也被3GPP、GSMA确定为移动语音的标准架构。VoLTE即Voice over LTE，它是一种IP数据传输技术，无需2G/3G网，全部业务承载于4G网络上，可实现数据与语音业务在同一网络下的统一。换言之，4G网络下不仅仅提供高速率的数据业务，同时还提供高质量的音视频通话，后者就是ViLTE。

## Definitions & Abbreviations

*本文涉及的专有名词，定义和缩写等。格式示例如下：*

|  |  |
| --- | --- |
| **IMS** | IP Multimedia Subsystem |
| **VoWifi** | Voice over WiFi |
| **VoLTE** | Voice over LTE |
| **AP** | Application Processer |
| **VT** | Video Telephony |
| **AOSP** | Android Open-Source Project |
| **IMS** | IP Multimedia Subsystem |
| **VoWifi** | Voice over WiFi |

## Reference

*本文涉及的文档引用*

[1] 3GPP TS 21.905: "3G Vocabulary".

# VoLTE、ViLTE定制

## 需求描述

|  |  |  |
| --- | --- | --- |
| **Features** | **Description** | **Effected Modules** |
| 语音电话 | 支持基于LTE的高清语音通话；  支持在通话过程中升级至视频通话；  支持mid-call SRVCC； | InCallUI  Telephony Framework ImsApp  RIL |
| 视频电话 | 支持基于LTE的高清视频通话；  支持VGA(640\*480@30fps)，并向下兼容QVGA、CIF、QCIF低分辨率格式；  支持在通话过程中降级成语音通话；  支持mid-call SRVCC；  支持CVO、码率自适应； | InCallUI Dialer  Telephony Framework ImsApp  RIL  Video Camera Codec |

## 代码说明

1.The IMS code of Spreadtrum implemented as a APP, use Android.UID.phone to run in the com.android.phone processes.

2.ImsManager provides APIs for ImsService.

3.ImsService implement IMS core logic , such as APN configuration ,URI configuration , send request to RIL, and receive unsolicited response from RIL.

4.ImsConfig provides APIs to get/set the IMS service feature/capability/parameters.

5.ImsUt provides APIs for the supplementary service settings using IMS (Ut interface).

6.ImsCallSession provides the call initiation/termination, and media exchange between two IMS endpoints

## feature开关

### board.mk

该Feature开关通过Board配置中的system property来控制，相关配置需要修改对应board的project.mk：

PRODUCT\_PROPERTY\_OVERRIDES += \

persist.sys.support.vt=true \

persist.sys.volte.enable=true

其中，persist.sys.support.vt用于控制VILTE是否启用，persist.sys.volte.enable用于控制volte是否启用。另外，还需要将ims.apk编译到版本中：

PRODUCT\_PACKAGES += \

ims \

### config.xml

另外，要确认对应工程的config.xml包含以下配置信息（如device/sprd/isharkl2/ sp9853i\_9c10/overlay/frameworks/base/core/res/res/values/config.xml）：

<bool name="config\_device\_volte\_available">true</bool>

<bool name="config\_carrier\_volte\_available">true</bool>

<bool name="config\_carrier\_volte\_provisioned">true</bool>

<bool name="config\_carrier\_volte\_tty\_supported">false</bool>

<bool name="config\_device\_vt\_available">true</bool>

<bool name="config\_carrier\_vt\_available">true</bool>

## 客制化示例

以7.0的9850 cmcc工程为例，对应的board文件配置如下：

device/sprd/isharkl2/sp9853i\_9c10/sp9853i\_9c10\_common.mk

PRODUCT\_PROPERTY\_OVERRIDES += \

persist.sys.support.vt=true \

persist.sys.volte.enable=true

PRODUCT\_PACKAGES += \

ims \

device/sprd/isharkl2/sp9853i\_9c10/overlay/frameworks/base/core/res/res/values/config.xml

<bool name="config\_device\_volte\_available">true</bool>

<bool name="config\_carrier\_volte\_available">true</bool>

<bool name="config\_carrier\_volte\_provisioned">true</bool>

<bool name="config\_carrier\_volte\_tty\_supported">false</bool>

<bool name="config\_device\_vt\_available">true</bool>

<bool name="config\_carrier\_vt\_available">true</bool>