

iPhone

IMS

# Voice over LTE (VoLTE) Originating Call

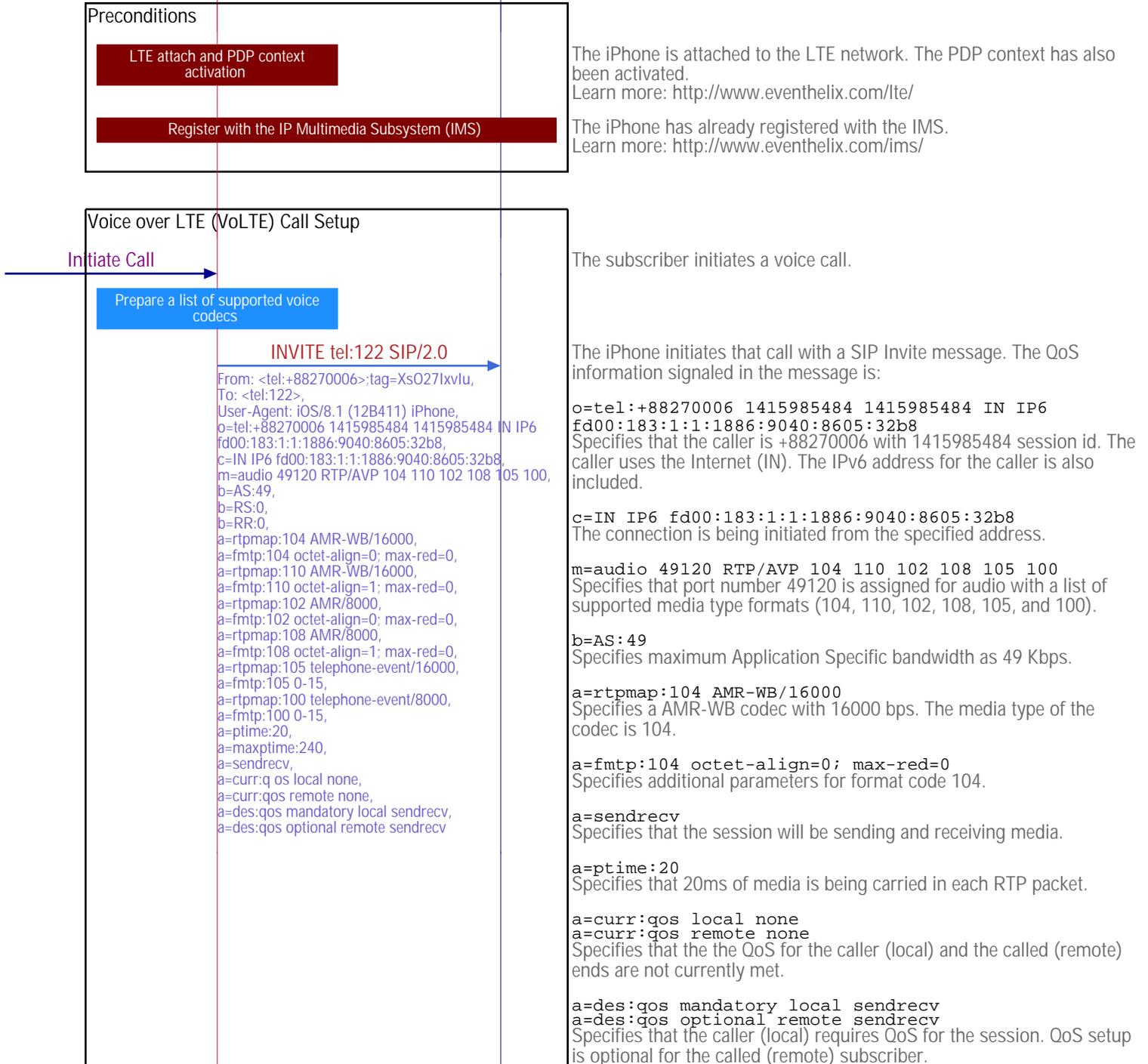
Voice over LTE (VoLTE) is the standard for voice call setup in LTE networks. When VoLTE is deployed, phones will not need to fallback to 3G for voice calls.

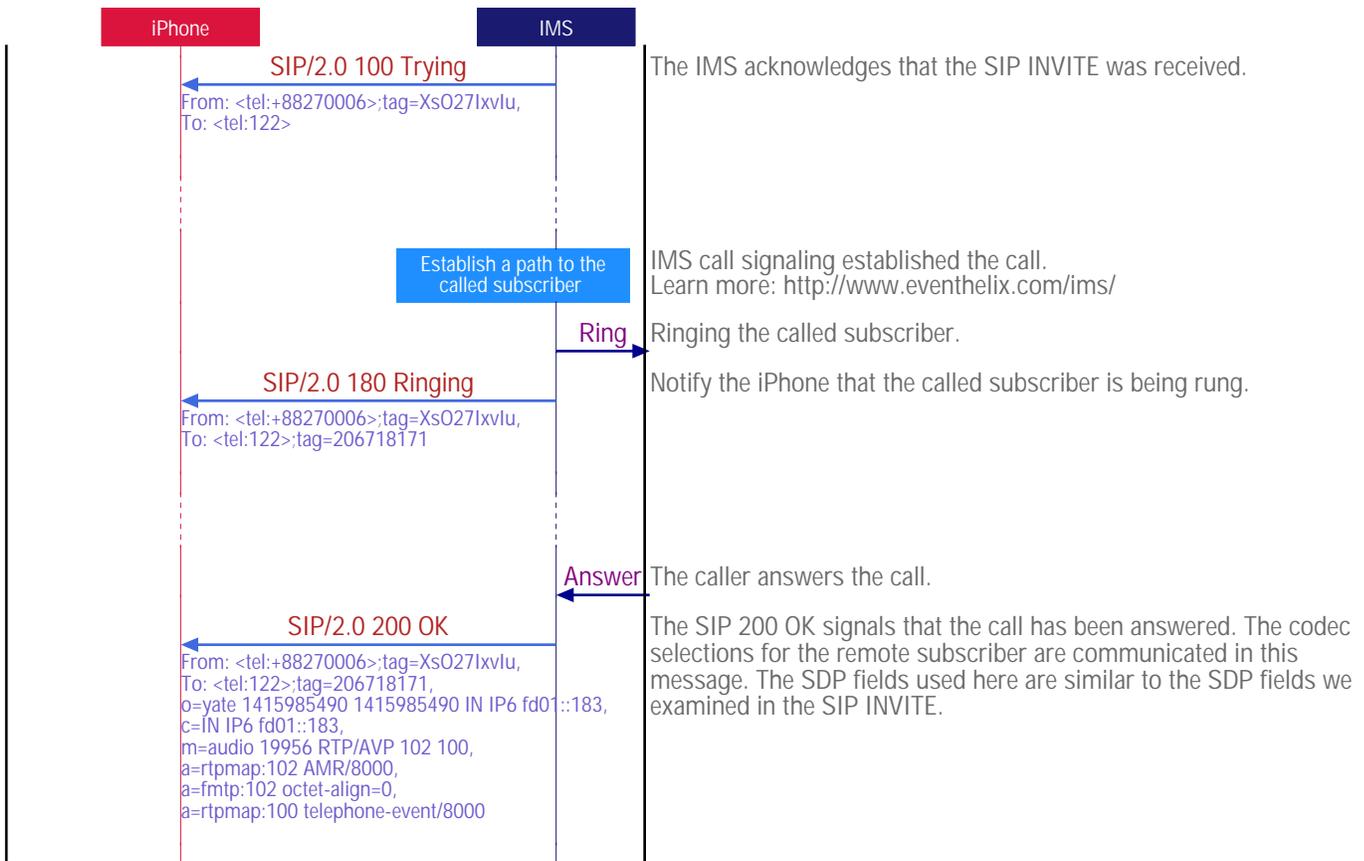
VoLTE uses IMS signaling to setup voice calls. The following VoLTE call flow describes the IMS call setup and release. An example of sending an SMS over IMS is also included. Sample RTP and RTCP messages are also shown in the flow.

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Note: You can click on IMS, RTP and RTCP message titles in this flow to see complete field level details.





The IMS acknowledges that the SIP INVITE was received.

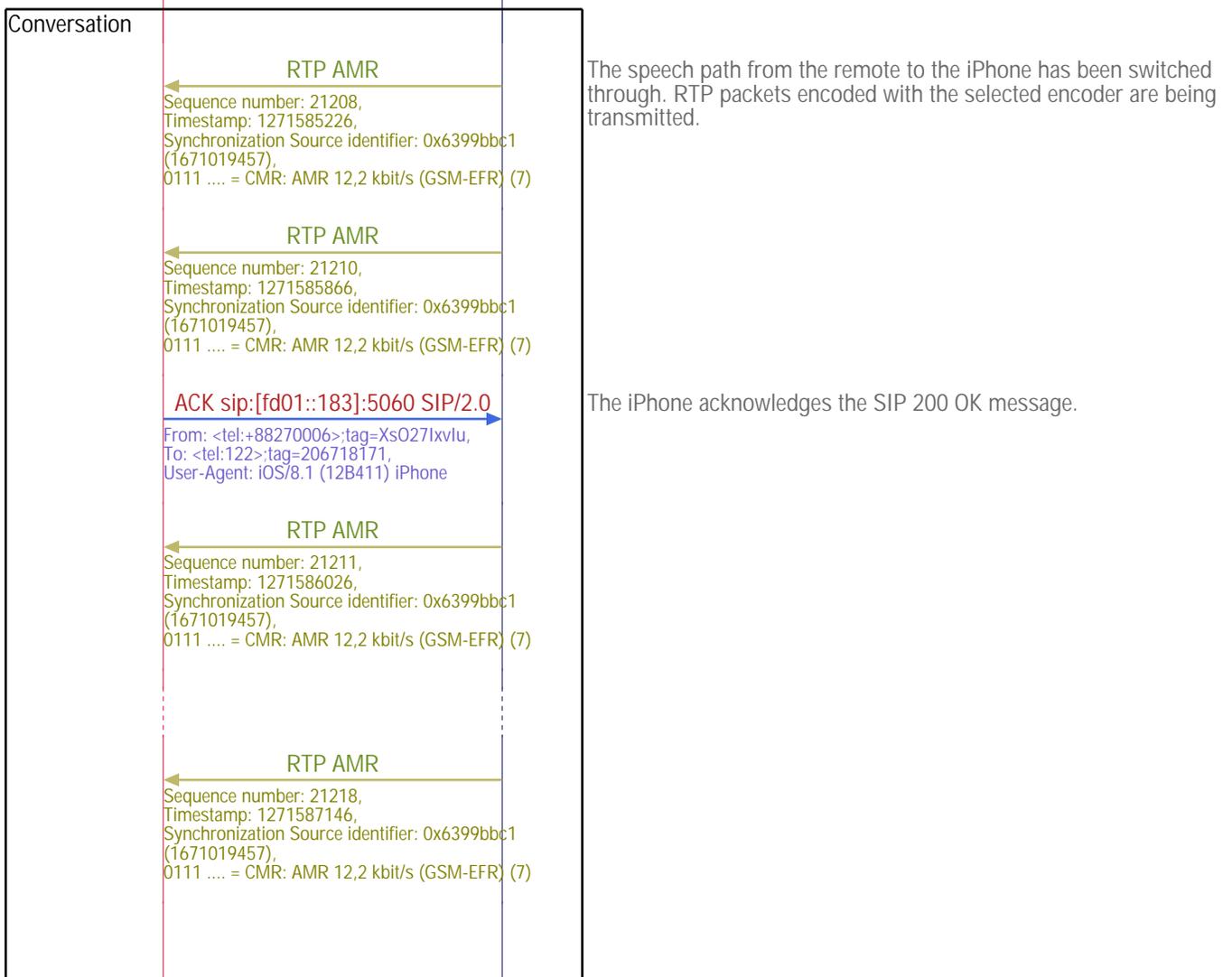
IMS call signaling established the call.  
Learn more: <http://www.eventhelix.com/ims/>

Ringing the called subscriber.

Notify the iPhone that the called subscriber is being rung.

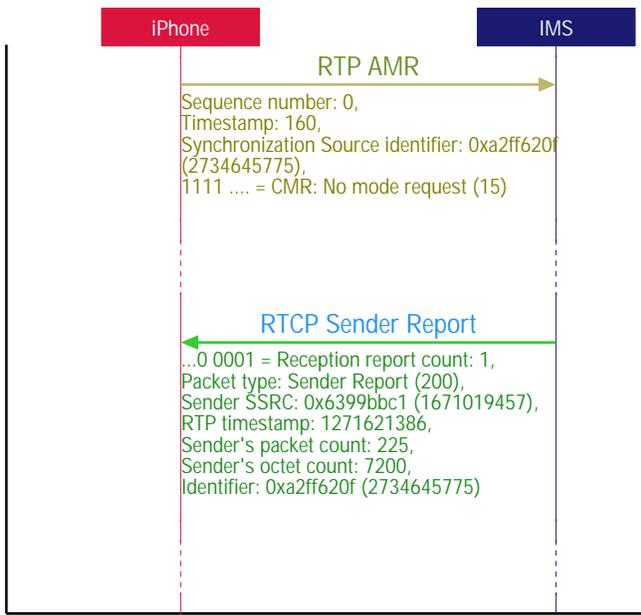
The caller answers the call.

The SIP 200 OK signals that the call has been answered. The codec selections for the remote subscriber are communicated in this message. The SDP fields used here are similar to the SDP fields we examined in the SIP INVITE.



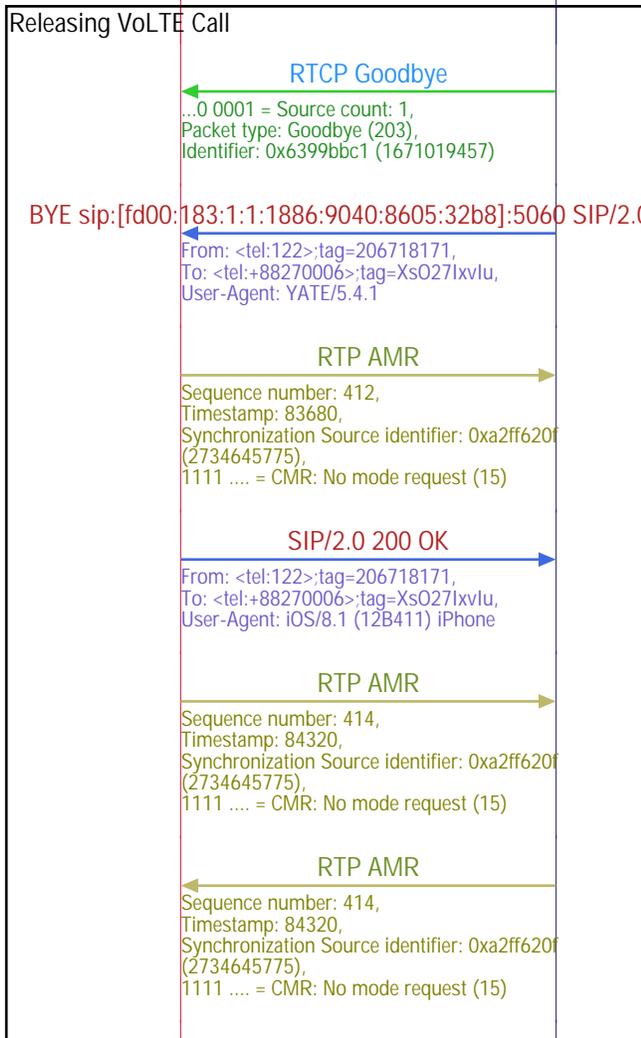
The speech path from the remote to the iPhone has been switched through. RTP packets encoded with the selected encoder are being transmitted.

The iPhone acknowledges the SIP 200 OK message.



Now the iPhone starts sending RTP packets. The voice codec information is not being sent.

Periodic RTCP packets keep track of the session health.



RTCP signals that the media path is being released.

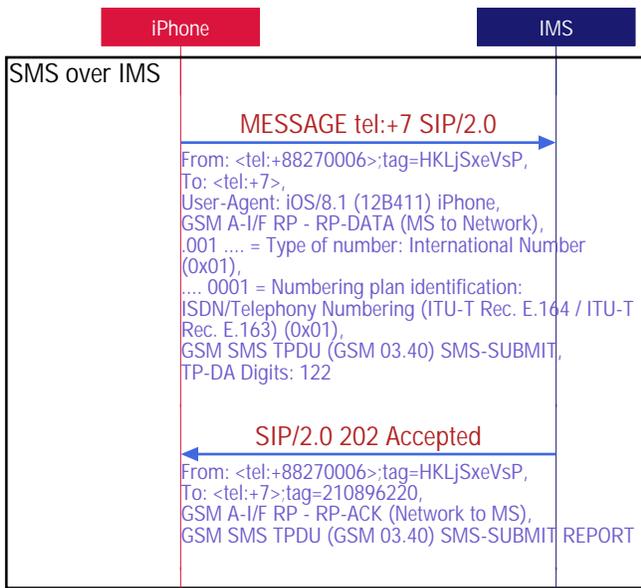
The remote end initiates the session release with a SIP BYE.

The iPhone is still sending RTP packets.

The iPhone acknowledges the SIP BYE. The session is being released.

The iPhone is still sending RTP packets with no codec data.

Residual RTP packet from the remote end. Notice that the packet has no codec data.



The iPhone sends an SMS at the end of the session.

The IMS acknowledges the receipt of the SMS.

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