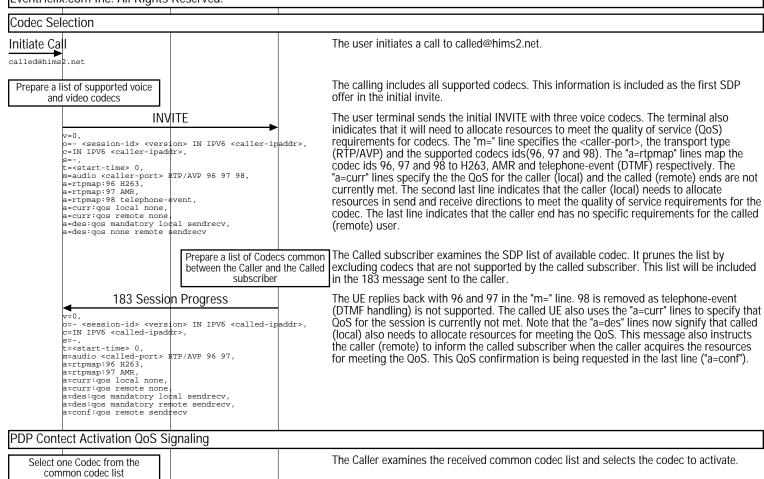
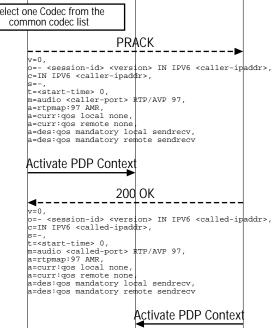
SDP Use in an IMS-to-IMS Call (SDP Codec Selection and QoS Signaling)						
Calling UE	Core Network	Called UE	EventStudio System Designer 4.0			
Caller User	GGSN	Called User	Evenisidulo System Designer 4.0			
Equipment		Equipment	07 Dog 07 22:20 (Dogs 1)			
Caller	GGSN	Called	07-Dec-07 22:30 (Page 1)			

Session Description Protocol (SDP) specifies a format for exchanging streaming related parameters between SIP subscribers. The following sequence diagram focuses on the SDP interactions between two IMS subscribers. The flow covers two phases of the SDP negotiation:

- (1) Codec selection between the calling and call IMS subscribers.
- (2) SDP signaling involved in exchanging quality of service information.

This sequence diagram was generated with EventStudio System Designer 4.0 (http://www.EventHelix.com/EventStudio). Copyright © 2007 EventHelix.com Inc. All Rights Reserved.





The Caller now sends a PRACK to inform the called subscriber about the selected Codec. The caller has selected the AMR codec. This is signaled by the "m=" and "a=" lines.

Now that the codec to be used has been selected, the PDP context activation is initiated for allocating resources for meeting the Quality of Service (QoS) requirements for the codec.

The called subscriber acknowledges the PRACK. The message also indicates that quality of service for the session is not met for the called subscriber.

The final codec at the called side is decided. So initiate the PDP context activation to allocate resources for meeting the QoS of the terminating leg of the call.

Calling UE	Core Network	Called UE	
Caller User	GGSN	Called User	EventStudio System Designer 4.0
Equipment		Equipment	07-Dec-07 22:30 (Page 2)
Caller	GGSN	Called	
	Activate PDP	Context Accept	The called PDP context activation has been completed. At this point, the caller and the called PDP contexts are both active. The QoS for the call can now be met.
Activate PDP (	Context Accept		The caller PDP context activation has been completed.
UPDATE  V=0,			Since the caller PDP context has been activated, notify the called end that the caller can now meet the quality of service in the send and receive direction. The "a=curr:qos local sendrecv" signals that the caller (local) PDP context has been established. Note that the UPDATE is being sent in response to the QOS confirmation request received in "183 Session Progress" message from the caller.
<pre>c=- <session-id> <version> IN IPV6 <caller-ipaddr>, c=IN IPV6 <caller-ipaddr>, s=-, t=<start-time> 0, m=audio <caller-port> RTP/AVP 97,</caller-port></start-time></caller-ipaddr></caller-ipaddr></version></session-id></pre>			
a=rtpmap:97 a=curr:qos a=curr:qos a=des:qos m			
a-desigos m	200 OK		The caller replies back to the called user. Note that the "a=cur" line for the called (local) h
	n-id> <version> IN IPV</version>	6 <called-ipaddr>,</called-ipaddr>	been updated to indicate that called end QoS is also met.
s=-, t= <start-ti< td=""><td>me&gt; 0, lled-port&gt; RTP/AVP 97,</td><td></td><td></td></start-ti<>	me> 0, lled-port> RTP/AVP 97,		
a=curr:qos a=curr:qos a=des:qos m	local sendrecv, remote sendrecv, andatory local sendrec andatory remote sendrec		
		Ringi	Now all the resources for the call are in place. Ring the called subscriber to notify the use about the incoming call.
•	180 Ringing		Inform the caller that the called subscriber is being rung. This serves as an implicit indication to the caller that the QoS at the called side has also been met.
	PRACK		The caller acknowledges the ringing message.
<b>◄</b>	200 OK		The called subscriber acknowledges the PRACK.
	200 OK	Answ	er The called subscriber answers the call.  Notify the caller that that the call has been answered.
4	ACK		The caller acknowledges the "200 OK" message. The call is now ready to enter conversati
onversation on a dire	ct RTP/RTCP connection	between the caller and	mode.
ca	lled subscriber SIP phone	es.	
1			