Component Interfaces (IMS-PSTN(ISUP) Call; Megaco/H.248 Signaling; IMS Caller Initiated Call Release)									
Calling UE	IMS Core Network		PSTN Interface	Modia	EventStudio System Designer 6				
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Control Function). The MGCF uses	up from one IMS subscrib one context with two tern	ninations in IM-MGW (Me	ation. The call is route edia Gateway). The ter	d via the BGCF mination RTP1	(Border Gateway Control Function) to the MGCF (Media Gateway is used towards IMS Core network subsystem entity and the				
bearer termination TDM1 is used for	r bearer towards PSTN (	CS network element.							
This sequence diagram was genera	ted with EventStudio Syst	tem Designer (http://www	v.EventHelix.com/Ever	itStudio).					
IMS to PSTN(ISUP) call setup					]				
Initiate Call					An IMS user initiates a call to a PSTN phone number.				
Called PSTN Telephone Number									
IMS to PSTN Call Routing via BGCF				1					
INVITE					The Calling SIP phone sends INVITE to P-CSCF. The message includes				
tel: <called number="" phone="">, caller@himsl.net, caller supported coded lis UE RTP Port, UE IP Address</called>	t,				the codecs available, the UE RTP port number and IP address.				
	INVITE				The Orig P-CSCF forwards INVITE to Orig S-CSCF. The IP Address of				
	tel: <called number="" phone="">, caller@hims1.net, caller supported coded lis</called>	- -			Orig S-CSCF was obtained at the time of Registration in 200 OK response to REGISTER message.				
	Record-Route: <orig p-cscf=""></orig>								
100 Trying	_				Orig P-CSCF acknowledges INVITE to Caller UE.				
			•		The S-CSCF forwards the INVITE to the local BGCF (Breakout Gateway Control Function) for further routing of the call.				
		<pre>S-CSCF address, <caller@himsl.net, caller@himsl.net,</caller@himsl.net, </pre>							
		Record-Route: <orig s-cscf=""></orig>	<orig p-cscf=""></orig>						
	100 Trying				Based on further analysis of the destination address, and PSTN network configuration, the BGCF either selects a local MGCF to perform the termination or it forwards the request to a BGCF in another network who				
		100 Tr in a			selects the MGCF to perform the termination.				
			_						
IIIVI-MGW Initial Setup									
			H.248: ADD.req	-	MGCF requests the IM-MGW for a new context. The UE codec, IP address and RTP port number is specified in the message.				
			Termination ID = ?, UE Codec List, UE RTP Port,						
			UE IP Address						
					1				



Component Interfaces (IMS-PSTN(ISUP) Call; Megaco/H.248 Signaling; IMS Caller Initiated Call Release)										
Calling UE IMS Core Network				PSTN Interface			EventStudio System Designer 6			
Caller User Ed	Equipment Visited IMS Home		IMS Signa		aling	Me	edia	24-Feb-13 15:23 (Page 3)		
							ISUP COT		Based on the continuity support of the outgoing channel selected MGCF sends a COT message to the PSTN network.	
Ringing		180 R PR/ 200 OK	tinging RTP: Ring ACK (PRACK)	Back Tone		-	ISUP ACM	Ring Back	The path towards the called party is allocated in the PSTN network and address complete message, ACM containing subscriber free indication is sent to MGCF. The ACM message also indicates that the called party in the PSTN network is being alerted. The MGCF forwards called party alerting indication in 180 ringing message towards the Caller. The ring back tone is fed to the calling subscriber. The IM-MGW converts the tone into RTP. The UE converts it back to the ring back tone and feeds it to the calling subscriber. The Caller acknowledges the 180 ringing with PRACK message towards MGCF. The MGCF acknowledges the PRACK message with 200 OK message.	
Conversation	I Mode	200 OK	(INVITE)			H.248 Context ID Termination H.248 Context ID Termination H.248 Context ID Termination	ISUP ANM :: MOD.req = C1, ID = RTP1 :: MOD.resp = C1, ID = TDM1 :: MOD.resp = C1, ID = TDM1 :: MOD.resp = C1, ID = TDM1		<ul> <li>When the called party answers, the terminating PSTN network sends answer, ANM message towards MGCF.</li> <li>Request a bidirectional through connection</li> <li>Request activation of TDM voice processing function.</li> <li>The final response, 200 OK, is sent by the MGCF over the signaling path when the subscriber has accepted the incoming session attempt.</li> <li>The Caller sends the final acknowledgement in ACK message towards MGCF.</li> </ul>	





Component Interfaces	(IMS Network Initiates	Call Release)				
Calling UE	IMS Cor	PSTN Interface			EventStudio System Designer 6	
Caller User Equipment	Visited IMS	Home IMS	Signaling	Medi	ia	24-Feb-13 15:23 (Page 6)
This call flow describes Control Function). The I bearer termination TDM	the call setup from one MGCF uses one context v 11 is used for bearer tow	IMS subscriber to ISUP F with two terminations in I ards PSTN CS network e	PSTN termination. The ca M-MGW (Media Gatewa lement.	III is routed via y). The termina	the BGCF tion RTP1	(Border Gateway Control Function) to the MGCF (Media Gateway is used towards IMS Core network subsystem entity and the
This sequence diagram	was generated with Ever	ntStudio System Designe	r (http://www.EventHelix	.com/EventStud	dio).	
IMS to PSTN(ISUP) ca	II setup					
Voice		RTP: Voice			Voice	Bidirectional voice path is now through. The IM-MGW converts RTP to
B	YE B	BYE B	YE			The Orig S-CSCF initiates call release by sending BYE towards MGCF and the Caller.
200 0	K (BYE) 200 O	K (BYE) 200 O	K (BYE)			
				ISUP REL		The MGCF initiates call release in the PSTN network by sending ISUP REL message.
			H.248: Context ID =	SUB.req		
			H.248:	SUB.resp		
			Context ID = Termination :	C1, ID = RTP1		
			H.248: Context ID =	SUB.req		
			Termination :			
			Context ID = Termination :	C1, ID = TDM1		
				ISUP RLC		The PSTN network acknowledges the call release with ISUP RLC, release complete towards MGCF.
This sequence diagram	was generated with Ever	ntStudio System Designe	r (http://www.EventHelix	.com/EventStud	dio).	

Component Interfaces (MGCF Initiated Call Release)										
Calling UE		IMS Cor	IMS Core Network			PSTN Interface			EventStudio System Designer 6	
Caller User Equip	ment Vis	ited IMS	Home	me IMS Sigr		aling	Media		24-Feb-13 15:23 (Page 7)	
This call flow desc Control Function). bearer termination	cribes the call se The MGCF uses TDM1 is used	tup from one s one context for bearer tow	IMS subscrib with two term ards PSTN C	er to ISUP P inations in I S network el	PSTN termina M-MGW (Me lement.	tion. The cal edia Gateway	l is routed via ). The termin	a the BGCF ation RTP1	(Border Gateway Control Function) to the MGCF (Media Gateway is used towards IMS Core network subsystem entity and the	
This sequence dia	gram was gener	ated with Ever	ntStudio Syste	em Designer	f (http://www	.EventHelix.o	com/EventSti	udio).		
IMS to PSTN(ISU	P) call setup									
Voice			RTP:	Voice				Voice	Bidirectional voice path is now through. The IM-MGW converts RTP to voice and vice versa. UE also maps audio to RTP and back.	
		E	BYE						The MGCF initiates the call release by sending BYE towards the Caller.	
							ISUP REL		The MGCF initiates call release in the PSTN network by sending ISUP REL message.	
						H.248: S Context ID = C Termination II	SUB.req			
						H.248: S Context ID = C	SUB.resp			
						H.248: \$	SUB.req			
						Context ID = ( Termination II	C1, D = TDM1			
						H.248: S Context ID = C Termination II	SUB.resp			
							ISUP RLC		The PSTN network acknowledges the call release with ISUP RLC, release complete towards MGCF.	
		200 0	K (BYE)						The Caller acknowledges the BYE message with 200 OK towards MGCF.	
This sequence dia	gram was gener	ated with Ever	ntStudio Syst	em Designer	(http://www	.EventHelix.o	com/EventStu	udio).		