	aco/H.248 Signaling; IMS Calle e Network PSTN	Interface	EventStudio System Designer 6
This call flow describes the call setup from one I Control Function). The MGCF uses one context w pearer termination TDM1 is used for bearer towa	MS subscriber to ISUP PSTN ter ith two terminations in IM-MGW rds PSTN CS network element.	mination. The call / (Media Gateway)	is routed via the BGCF (Border Gateway Control Function) to the MGCF (Media Gateway . The termination RTP1 is used towards IMS Core network subsystem entity and the
This sequence diagram was generated with Even	tStudio System Designer (http://	www.EventHelix.c	om/EventStudio).
MS to PSTN(ISUP) call setup Initiate Call alled PSTN Telephone Number			An IMS user initiates a call to a PSTN phone number.
IMS to PSTN Call Routing via BGCF INVITE tel: <called number="" phone="">, caller@hims1.net, caller supported coded list, UE RTP Port, UE IP Address</called>			The Calling SIP phone sends INVITE to P-CSCF. The message includes the codecs available, the RTP port number and IP address.
100 Trying	INVITE		Orig P-CSCF acknowledges INVITE to Caller UE. The S-CSCF forwards the INVITE to the local BGCF (Breakout Gateway Control Function) for furth
	tel: <called number="" phone="">, S-CSCF address, <caller@hims1.net, <caller@hims1.net, Record-Route:<orig s-cscf=""> <orig p-<br="">100 Trying</orig></orig></caller@hims1.net, </caller@hims1.net, </called>		routing of the call.
IM-MGW Initial Setup			
183 Sessi Common Codecs List, IM-MGW RTP Port, IM-MGW IP Address, Record-Route: <mgcf>, <bgcf>, <orig Contact: <mgcf></mgcf></orig </bgcf></mgcf>	S-CSCF>, <orig p-cscf="">,</orig>		The MGCF returns the media stream capabilities of the destination along the signaling path in a "183 Session Progress". The IM-MGW "Common Codec List", IP address and the RTP port numb are included in the message.
	tel: <called phon<="" td=""><td>e number&gt;</td><td>The MGCF sends IAM, containing the called party phone number digits, towards PSTN termination The TDM-1 circuit information obtained from the IM-MGW is included in the message.</td></called>	e number>	The MGCF sends IAM, containing the called party phone number digits, towards PSTN termination The TDM-1 circuit information obtained from the IM-MGW is included in the message.
	АСК		The Caller confirms the codec selection in PRACK towards MGCF.
Selected Codec			

Module Interfaces (IMS-PSTN(ISUP) Call; Megaco/H.248 Signaling; IMS Caller Initiated Call Release)						
Callin	ng UE IMS Core	Network PSTN	Interface	EventStudio System Designer 6		
	200 OK (	(PRACK)	_	The codec selected is acknowledged to the UE.		
	Selected Codec, Selected UDP Port, Selected IP Address					
	UPD	ATE ;		Since caller PDP Context Activation is over, notify the called end in UPDATE message.		
	■ 200 OK (	UPDATE)		The called end replies back with 200 OK.		
			ISUP COT	Based on the continuity support of the outgoing channel selected MGCF sends a COT message to the PSTN network.		
Ringing						
			ISUP ACM	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.		
	◀	inging	-	The MGCF forwards called party alerting indication in 180 ringing message towards the Caller.		
Ring Back Tone	RTP: Ring	Back Tone	Ring Back Ton	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.		
	PRA	ACK		The Caller acknowledges the 180 ringing with PRACK message towards MGCF.		
	■ 200 OK (	(PRACK)	_	The MGCF acknowledges the PRACK message with 200 OK message.		
Conversation M	ode					
			ISUP ANM	When the called party answers, the terminating PSTN network sends answer, ANM message towards MGCF.		
	■ 200 OK	(INVITE)	-	The final response, 200 OK, is sent by the MGCF over the signaling path when the subscriber has accepted the incoming session attempt.		
	AC	СК ,	-	The Caller sends the final acknowledgement in ACK message towards MGCF.		
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.		
	B	Υ <u>Ε</u>		The Caller sends BYE towards MGCF when the calling party hangs up.		

Calling UE	I(ISUP) Call; Megaco/H.248 Signal IMS Core Network	PSTN Interface	EventStudio System Designer 6
	200 OK (BYE)		The MGCF acknowledges with 200 OK message towards Caller.
•			
		ISUP REL	The MGCF initiates call release in the PSTN network by sending ISUP REL message.
			The PSTN network acknowledges the call release with ISUP RLC, release complete towards MG
lence diagram was ge	nerated with EventStudio System D	esigner (http://www.EventHeli:	x.com/EventStudio).

	ces (Called PSTN Subscriber Init			
Callin	×		Interface	EventStudio System Designer 6
This call flow dea Control Function bearer termination	scribes the call setup from one IN ). The MGCF uses one context wi on TDM1 is used for bearer towar	AS subscriber to ISUP PSTN terr ith two terminations in IM-MGW rds PSTN CS network element.	mination. The ca (Media Gateway	II is routed via the BGCF (Border Gateway Control Function) to the MGCF (Media Gateway )). The termination RTP1 is used towards IMS Core network subsystem entity and the
This sequence d	iagram was generated with Event	Studio System Designer (http://v	www.EventHelix.	com/EventStudio).
IMS to PSTN(IS	UP) call setup			]
Voice	· · · · · · · · · · · · · · · · · · ·	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.
			ISUP REL	The call release initiated in the PSTN network is received by MGCF is ISUP REL message.
	BY	YE	_	The MGCF responds with call release by sending BYE message towards the Caller.
			ISUP RLC	After performing RTP1 and TDM1 resource release, MGCF sends release complete message, ISUP RLC towards the PSTN network.
-	200 OK	(BYE)		The Caller acknowledges the BYE by sending 200 OK towards MGCF.
This sequence d	iagram was generated with Event	Studio System Designer (http://v	www.EventHelix	com/EventStudio)
	logi ann nao gonoratoa mur zront			

Module Interfaces (IMS Network Initiates Call Release)						
Calling			Interface	EventStudio System Designer 6		
This call flow des Control Function bearer terminatio	scribes the call setup from one IN ). The MGCF uses one context wi n TDM1 is used for bearer towar	//S subscriber to ISUP PSTN ter ith two terminations in IM-MGW rds PSTN CS network element.	mination. The ca / (Media Gateway	II is routed via the BGCF (Border Gateway Control Function) to the MGCF (Media Gateway ). The termination RTP1 is used towards IMS Core network subsystem entity and the		
This sequence di	agram was generated with Event	Studio System Designer (http://	www.EventHelix.	com/EventStudio).		
IMS to PSTN(ISI	JP) call setup	<u> </u>	ļ	]		
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.		
	BYE	BYE		The Orig S-CSCF initiates call release by sending BYE towards MGCF and the Caller.		
	200 OK (BYE)	200 OK (BYE)	•			
			ISUP REL	The MGCF initiates call release in the PSTN network by sending ISUP REL message.		
			ISUP RLC	The PSTN network acknowledges the call release with ISUP RLC, release complete towards MGCF.		
This sequence di	agram was generated with Event	Studio System Designer (http://	www.EventHelix.	com/EventStudio).		

	ces (MGCF Initiat	ed Call Release	2)				
	ng UE	IMS Core		PSTN Inte			EventStudio System Designer 6
This call flow de Control Function bearer terminati	escribes the call se n). The MGCF uses on TDM1 is used	etup from one IN s one context wi for bearer towar	IS subscriber to ISL th two terminations ds PSTN CS netwo	IP PSTN termina in IM-MGW (Me rk element.	ation. The call edia Gateway)	l is routed via the BGCF ( ). The termination RTP1	(Border Gateway Control Function) to the MGCF (Media Gateway is used towards IMS Core network subsystem entity and the
This sequence of	liagram was gener	rated with EventS	Studio System Desig	gner (http://www	w.EventHelix.c	com/EventStudio).	
IMS to PSTN(IS	SUP) call setup						
Voice	,	RTP:	Voice		Voice	Bidirectional voice path is	s now through. The IM-MGW converts RTP to voice and vice versa. UE
••••••••••••••••••••••••••••••••••••						also maps audio to RTP a	and back.
	•	BY	/E			The MGCF initiates the cal	Il release by sending BYE towards the Caller.
					ISUP REL	The MGCF initiates call rel	lease in the PSTN network by sending ISUP REL message.
					ISUP RLC	The PSTN network acknow	wledges the call release with ISUP RLC, release complete towards MGC
		200 QK	(BYE)			The Caller acknowledges t	the BYE message with 200 OK towards MGCF.
This sequence of	liagram was gener	rated with Events	Studio System Desig	gner (http://www	w.EventHelix.o	com/EventStudio).	