

**Source:** TSG CN WG3  
**Title:** CRs on Rel-6 Work Item IMS-CCR-Mn.  
**Agenda item:** 9.17  
**Document for:** APPROVAL

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**Introduction:**

This document contains **6 CRs on Rel-6 Work Item IMS-CCR-Mn**, including the corresponding mirror CRs (as required).

These CRs have been agreed by TSG CN WG3 and are forwarded to TSG CN Plenary meeting for approval.

<b>WG_tdoc</b>	<b>Title</b>	<b>Spec</b>	<b>CR</b>	<b>Rev</b>	<b>Cat</b>	<b>Rel</b>
N3-030790	Failure handling in MGCF	29.163	009	1	F	Rel-6
N3-030829	Corrections to clause 9 of TS 29.163	29.163	012	5	F	Rel-6
N3-030831	IM-MGW initiated release	29.163	014	2	F	Rel-6
N3-030793	Corrections to table 29 and 30 of TS 29.163	29.163	016	1	F	Rel-6
N3-030817	Corrections on Section 9.2.8 Handling of RTP telephony events	29.163	023	2	F	Rel-6
N3-030741	Wrong Mn Procedure in Figure 36	29.163	024		D	Rel-6

## CHANGE REQUEST

⌘ **29.163 CR 024** ⌘ rev - ⌘ Current version: **6.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Wrong Mn Procedure in Figure 36		
<b>Source:</b>	⌘ TSG_CN WG3		
<b>Work item code:</b>	⌘ IMS-CCR-Mn	<b>Date:</b>	⌘ 10/10/2003
<b>Category:</b>	⌘ <b>D</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ Error in Figure 36: Reserve IMS Connection Point and Configure Remote Resources should be used instead of Reserve IMS Connection Point, as described in the text.		
<b>Summary of change:</b>	⌘ Figure 36 corrected		
<b>Consequences if not approved:</b>	⌘ Specification self-contradicting		

<b>Clauses affected:</b>	⌘ 9.2.2.3						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	Other core specifications	⌘
Y	N						
⌘	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	⌘	X	Test specifications			
⌘	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	⌘	X	O&M Specifications			
⌘	X						
<b>Other comments:</b>	⌘						

### 9.2.2.3 ISUP

#### 9.2.2.3.1 IM-MGW selection

The MGCF shall select an IM-MGW with circuits to the given destination in the CS domain before it performs the IM CN subsystem session establishment and before it sends the IAM (signal 8 in figure 36).

#### 9.2.2.3.2 IM CN subsystem side termination reservation

On receipt of an initial INVITE (signal 1 in figure 36) the MGCF shall initiate the Reserve IMS Connection Point and Configure Remote Resources procedure (signal 3 and 4 in figure 36). From the received SDP and local configuration data the MGCF

- shall send the appropriate remote codec(s), the remote UDP port and the remote IP address to the IM-MGW. The remote UDP port and IP address refer to the destination of user plane data sent towards the IM CN subsystem. The remote codec(s) are the codec(s) the IM-MGW may select for user plane data sent towards the IM CN subsystem.
- shall indicate to the IM-MGW the appropriate local codec(s) and request a local IP address and UDP port. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. The local codec(s) are the codec(s) the IM-MGW may select to receive user plane data from the IM CN subsystem. If DTMF support together with speech support is required, the reserve value indicator for the local codec(s) shall be set to "true".

The IM-MGW shall

- reply to the MGCF with the selected local codec(s) and the selected remote codec and the selected local UDP port and IP address.
- reserve resources for those codec(s).

The MGCF shall send selected local codec(s) and the selected remote codec and the selected local UDP port and IP address to the IMS in the Session Progress (signal 5 in figure 36)

#### 9.2.2.3.3 IM CN subsystem side session establishment

Dependent on what the MGCF receives in the PRACK message (signal 9 in figure 35) the MGCF may initiate the Configure IMS Resources procedure. If no SDP is received, or if the received SDP does not contain relevant changes compared to the previous SDP, the procedure is not invoked. Otherwise the MGCF shall use the Configure IMS Resources procedure to provide to the IM-MGW

- the appropriate remote codec(s), the remote UDP port and the remote IP address.
- optionally the appropriate local codec(s), UDP port and IP address.

Note: This may be triggered if the requirement for DTMF is withdrawn.

The IM-MGW shall:

- reply to the MGCF with the selected remote codec.
- reply to the MGCF with the selected local codec(s), if the MGCF supplied local codec(s).
- update the codec reservation and remote IP configuration data in accordance with the received information.

The MGCF shall include the selected codec(s) and port number(s) and other IP connection data in an SDP answer (signal 10 in figure 36) sent back to the IMS.

#### 9.2.2.3.4 CS network side circuit reservation

The MGCF shall request the IM-MGW to reserve a circuit using the Reserve TDM Circuit procedure. The MGCF sends the IAM to the succeeding node including the reserved circuit identity.

#### 9.2.2.3.5 Through-connection

During the Reserve TDM Circuit and Reserve IMS Connection Point procedures, the MGCF shall either use the Change TDM Through-Connection procedure to request the IM-MGW to backward through-connect the termination, or the MGCF shall use this procedure to both-way through-connect the TDM termination already on this stage (signal 6 in figure 36). During the Reserve IMS connection Point procedure, the MGCF shall use the Change IMS through-connection procedure to request the IM-MGW to backward through-connect the IMS termination (signal 3 in figure 36).

When the MGCF receives the ISUP:ANM answer indication, it shall request the IM-MGW to both-way through-connect the terminations using the Change IMS Through-Connection or Change TDM Through-Connection procedures (signal 21 in figure 36), unless those terminations are already both-way through-connected.

#### 9.2.2.3.6 Continuity check

The MGCF may request a continuity check on the connection towards the CS network within the IAM message. In this case, the MGCF shall use the Continuity Check procedure towards the IM-MGW to request the generation of a continuity check tone on the TDM termination. The IM-MGW shall then use the Continuity Check Verify procedure to notify the MGCF of an incoming continuity check tone on the corresponding circuit. In addition to other conditions detailed in Section 7, the MGCF shall wait until receiving this notification before sending the COT. (Not depicted in figure 36)

#### 9.2.2.3.7 Codec handling

The IM-MGW may include a speech transcoder based upon the speech coding information provided to each termination.

#### 9.2.2.3.8 Voice processing function

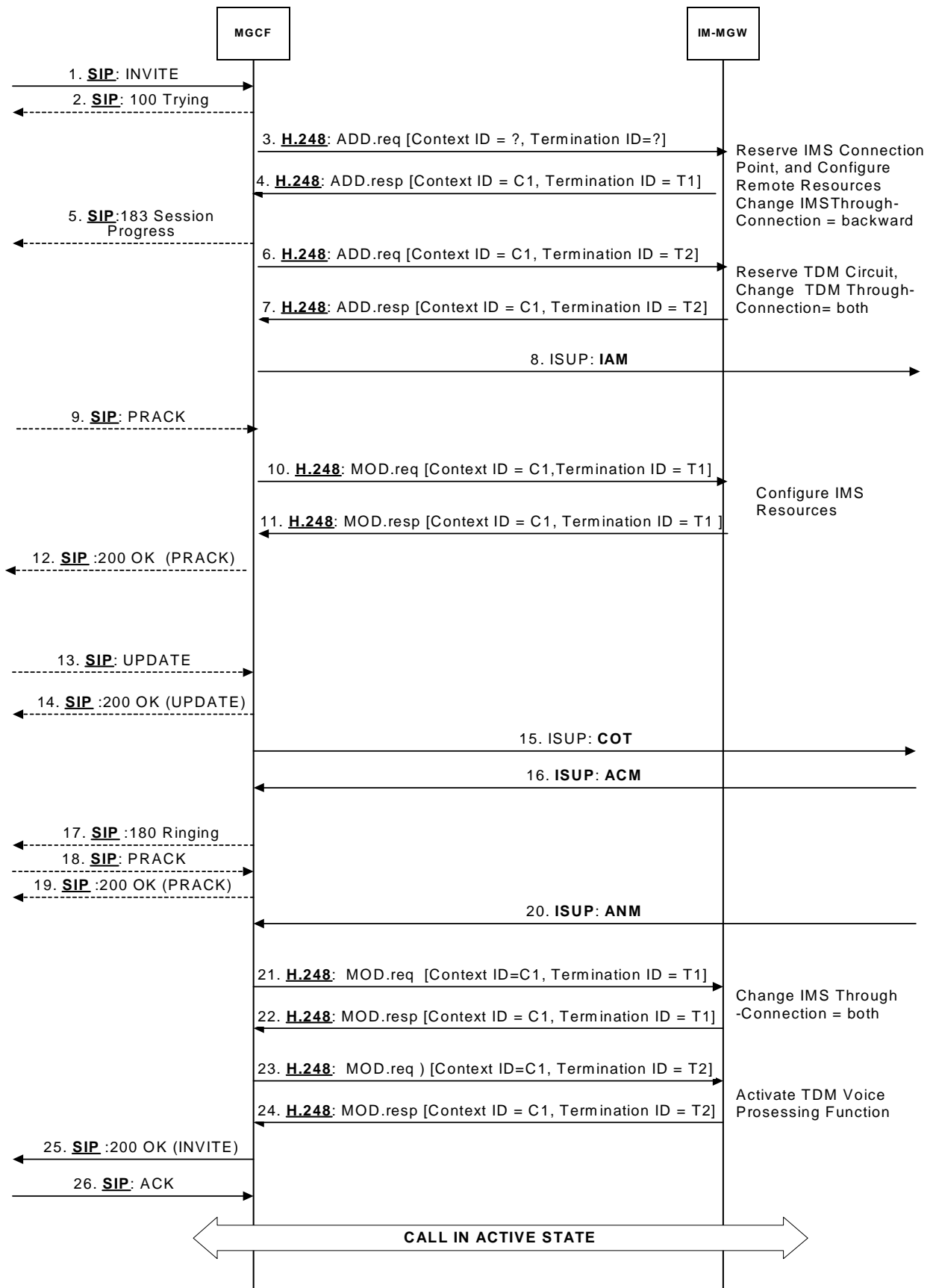
A voice processing function located on the IM-MGW may be used to achieve desired acoustic quality on the terminations. If the voice processing function is used, the MGCF shall request the activation of it in the termination towards the CS network using the Activate TDM Voice Processing Function procedure (signal 23 in figure 36).

#### 9.2.2.3.9 Failure handling in MGCF

If any procedure between the MGCF and the IM-MGW is not completed successfully session shall be released as described in clause 9.2.6.

#### 9.2.2.3.10 Message sequence chart

Figure 36 shows the message sequence chart for the IM CN subsystem originating session. In the chart the MGCF requests the seizure of an IM CN subsystem side termination and a CS network side bearer termination. When the MGCF receives an answer indication, it requests the IM-MGW to both-way through-connect the terminations. The MGCF requests the possible activation of the voice processing functions for the bearer terminations.



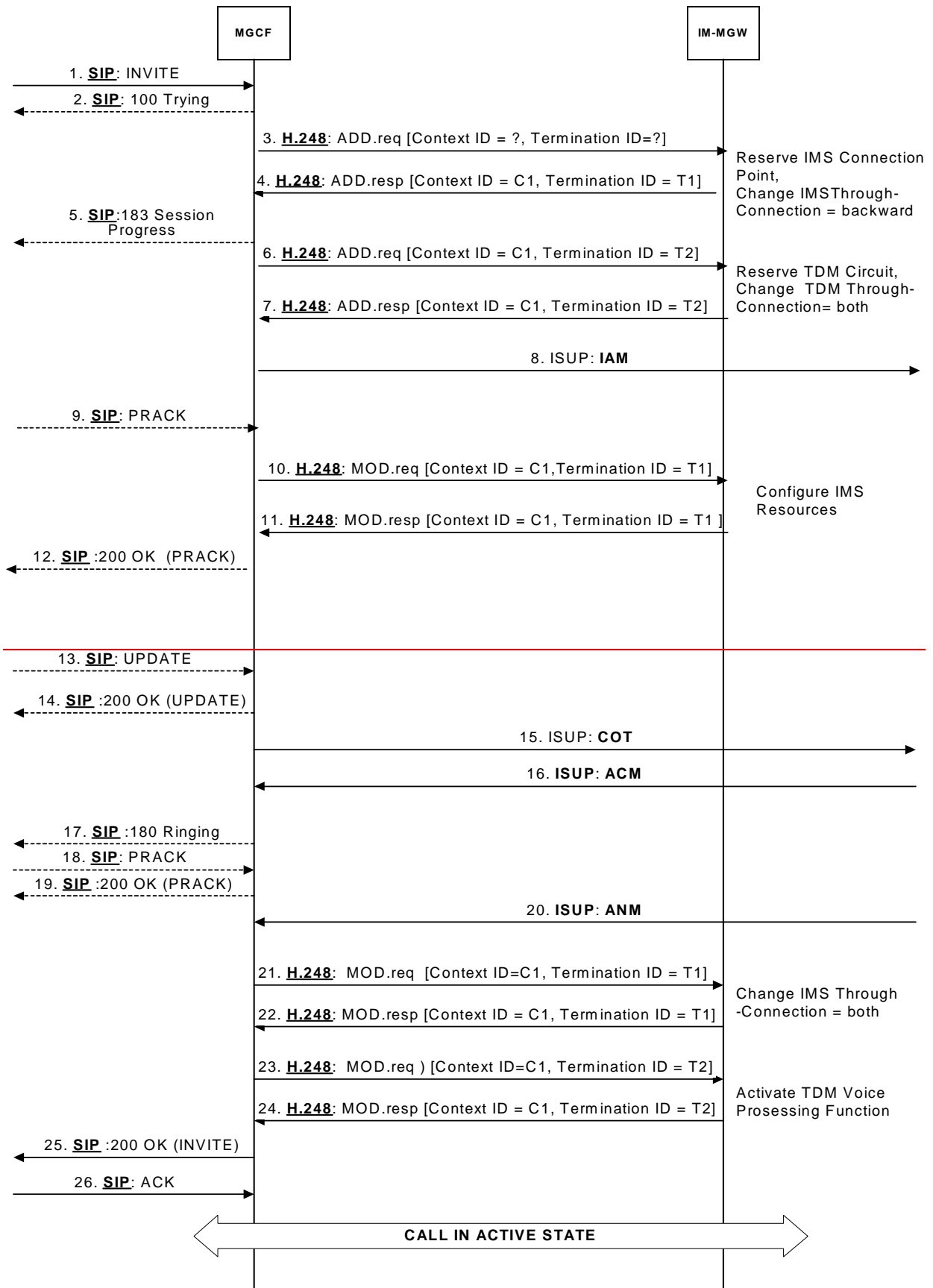


Figure 36: Basic IM CN Subsystem originating session, ISUP (message sequence chart)

## CHANGE REQUEST

⌘ **29.163** **CR 009** ⌘ rev **1** ⌘ Current version: **6.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Failure handling in MGCF		
<b>Source:</b>	⌘ TSG_CN WG3		
<b>Work item code:</b>	⌘ IMS-CCR-Mn	<b>Date:</b>	⌘ 08/10/2003
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The present text on failure handling in MGCF (clauses 9.2.2.1.7, 9.2.2.2.7, 9.2.3.1.9 and 9.2.3.2.9) are very vague. In particular, the text regarding how to move the user plane to another MGW is not complete. This complex function can be provided in a number of ways. However, instead of trying to specify this functionality we propose to deal with this issue in the same way as we dealt with the redirect function.
<b>Summary of change:</b>	⌘ The concerned sections are divided into one normative part and one non-normative note. In the note it is proposed to describe the possibility to move the user plane as an implementation option.
<b>Consequences if not approved:</b>	⌘ A very complicated function may be implemented in a not interoperable fashion.

<b>Clauses affected:</b>	⌘ Clauses 9.2.2.1.7, 9.2.2.2.7, 9.2.3.1.9 and 9.2.3.2.9 are affected										
<b>Other specs Affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	X	X	X	X	Other core specifications	⌘
Y	N										
X	X										
X	X										
X	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

**How to create CRs using this form:**

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## First modified section

### 9.2.2.1.7 Failure handling in MGCF

If any procedure between the MGCF and the IM-MGW is not completed successfully [the default action by the MGCF is to release](#) the session, ~~may be cleared~~ as described in clause 9.2.6. If the MGCF receives a Bearer Released procedure from the IM-MGW [the default action by the MGCF is to release](#) the session ~~may be cleared~~ as described in clause 9.2.7.

~~Alternatively, the MGCF may only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the call establishment using new resources in the selected IM-MGW.~~

Note: [As an implementation option the MGCF may also decide for example to only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the call establishment using new resources in the selected IM-MGW but such handling is outside of the scope of the present document.](#)

## Next modified section

### 9.2.2.2.7 Failure handling in MGCF

If any procedure between the MGCF and the IM-MGW is not completed successfully [the default action by the MGCF is to release](#) the session ~~may be cleared~~ as described in clause 9.2.6. If the MGCF receives a Bearer Released procedure from the IM-MGW [the default action by the MGCF is to release](#) the session, ~~may be cleared~~ as described in clause 9.2.7.

~~Alternatively, the MGCF may only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the session establishment using new resources in the selected IM-MGW.~~

Note: [As an implementation option the MGCF may also decide for example to only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the call establishment using new resources in the selected IM-MGW but such handling is outside of the scope of the present document.](#)

## Next modified section

### 9.2.3.1.9 Failure handling in MGCF

If any procedure between the MGCF and the IM-MGW is not completed successfully, [the default action by the MGCF is to release](#) the session ~~may be cleared~~ as described in clause 9.2.6. If the MGCF receives a Bearer Released procedure from the IM-MGW [the default action by the MGCF is to release](#) the session ~~may be cleared~~ as described in clause 9.2.7. ~~Alternatively, the MGCF may only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the session establishment using new resources in the selected IM-MGW.~~



Note: As an implementation option the MGCF may also decide for example to only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the call establishment using new resources in the selected IM-MGW but such handling is outside of the scope of the present document.

## Last modified section

### 9.2.3.2.9 Failure handling in MGCF

If any procedure between the MGCF and the IM-MGW is not completed successfully, the default action by the MGCF is to release the session ~~may be cleared~~ as described in clause 9.2.6. If the MGCF receives a Bearer Released procedure from the IM-MGW the default action by the MGCF is to release the session ~~may be cleared~~ as described in clause 9.2.7. ~~Alternatively, the MGCF may only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the session establishment using new resources in the selected IM-MGW.~~

Note: As an implementation option the MGCF may also decide for example to only release the resources in the IM-MGW that caused the failure, possibly select a new IM-MGW for the connection and continue the call establishment using new resources in the selected IM-MGW but such handling is outside of the scope of the present document.



3GPP TSG-CN WG3 Meeting #30  
 Bangkok, Thailand. 27<sup>th</sup> - 31<sup>st</sup> October 2003.

N3-030793

CR-Form-v7	
<b>CHANGE REQUEST</b>	
⌘ <b>29.163</b> <b>CR 016</b> ⌘ rev <b>1</b> ⌘ Current version: <b>6.0.0</b> ⌘	

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps ⌘  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Corrections to table 29 and 30 of TS 29.163		
<b>Source:</b>	⌘ TSG_CN WG3		
<b>Work item code:</b>	⌘ IMS-CCR-Mn	<b>Date:</b>	⌘ 08/10/2003
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ It is no use to send the parameter volume to MGCF, since BICC does not support the transport of the volume parameter. In addition, H.248 has already defined package for Tone detection and an extension of that package dedicated for DTMF. These H.248 definitions are used in TS 23.205 procedures Detect DTMF and Report DTMF Therefore this part shall be referenced, so that synergy can be obtained.
<b>Summary of change:</b>	⌘ References are made to TS 23.205 instead of RFC.2833.
<b>Consequences if not approved:</b>	⌘ Additional implemention work will be required.

<b>Clauses affected:</b>	⌘ Clauses 9.3.1.5 and 9.3.1.6						
<b>Other specs Affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘	Y	N	⌘	X		
Y	N						
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	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Test specifications	⌘	X				
⌘	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> O&M Specifications	⌘	X				
⌘	X						
<b>Other comments:</b>	⌘						

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

### 9.3.1.5 Detect IMS RTP Tel event

This procedure is used by the MGCF to request from the MGW the detection of telephony events signalled within RTP according to RFC 2833 [34] and the notification of received telephony events. [This procedure is the same as that is defined in the subclause "Detect DTMF" in 3GPP TS 23.205 \[27\].](#)

**Table 29: Procedures toward the IM Subsystem: Detect IMS RTP Tel event**

Procedure	Initiated	Information element name	Information element required	Information element description
Detect IMS RTP Tel Event	MGCF	Context	M	This information element indicates the existing context.
		IMS Termination	M	This information element indicates the existing bearer termination.
		Notify IMS RTP Tel Event	M	This information element indicates that the MGCF request notifications of type "IMS RTP Tel Event" about received telephony events
		Events	M	This information element indicates the list of events, in subclause 9.3.1.6, for which a notification is requested.
Detect IMS RTP Tel Event Ack	IM-MGW	Context	M	This information element indicates the context where the command was executed.
		IMS Termination	M	This information element indicates the IMS termination where the command was executed.

### 9.3.1.6 Notify IMS RTP Tel event

This procedure is used by the MGW to notify the MGCF about the detection of telephony events signalled within RTP according to RFC 2833 [34]. [This procedure is the same as that defined in the subclause "Report DTMF" in 3GPP TS 23.205 \[27\]](#)

**Table 30: Procedures toward the IM-Subsystem: Detect IMS RTP Tel Event**

<b>Procedure</b>	<b>Initiated</b>	<b>Information element name</b>	<b>Information element required</b>	<b>Information element description</b>
Notify IMS RTP Tel Event	IM-MGW	Context	M	This information element indicates the existing context.
		IMS Termination	M	This information element indicates the existing bearer termination.
		Notify IMS RTP Tel Event	M	This information element indicates that the IM-MGW notifies about received telephony events.
		DTMF digit	M	As DTMF digits in Annex E.6 in H.248 [2]
		Duration	M	As "duration" defined by Annex E.4 in H.248 [2]
		End	M	As "End tone detected" defined by Annex E.4 in H.248 [2]
		Volume	M	As "volume" defined by RFC 2833.
Beginning	M	As "Start tone detected" defined by Annex E.4 in H.248 [2]		
Notify IMS RTP Tel Event Ack	MGC	Context	M	This information element indicates the context where the command was executed.

## CHANGE REQUEST

# 29.163 CR 023 # rev 2 # Current version: 6.0.0 #

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	# Corrections on Clause 9.2.8 Handling of RTP telephony events		
<b>Source:</b>	# TSG_CN WG3		
<b>Work item code:</b>	# IMS-CCR-Mn	<b>Date:</b>	# 18/08/2003
<b>Category:</b>	# F	<b>Release:</b>	#
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	# Mn Procedure names changed throughout Section 9 at CN3 #29, except for Section 9.2.8, were the agreed change was not implemented. CN1 decided that same SDP media component shall be used for speech and telephony events. It was agreed in LS exchange with CN1 that telephone-event should be in same SDP m-line as speech (and thus be bidirectional), but only mobile originated DTMF is required to be interworked. Furthermore, the MN procedures defined in 29.163 do not support mobile terminating DTMF for BICC out-of-band DTMF.
<b>Summary of change:</b>	# Procedure names Updated in Text and Figure. Same termination used to receive speech and telephony events. Additional text with further explanations and references to Sections 9.2.2 and 9.2.3 added. Only mobile originated DTMF is required to be interworked, even if bidirectional DTMF was negotiated.
<b>Consequences if not approved:</b>	# Spec self-contradicting and open to misunderstanding

<b>Clauses affected:</b>	# 9.2.8								
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications # Test specifications # O&M Specifications #	Y	N	#	X		X		X
Y	N								
#	X								
	X								
	X								
<b>Other comments:</b>	# A CR (N3030555) to rename procedures was agreed at CN3 #29, but not implemented.								



## 9.2.8 Handling of RTP telephony events

DTMF digits, telephony tones and signals (telephony events) can be transferred using different mechanisms. For the IM CN Subsystem, 3GPP TS 24.229 [9] defines the usage of the RTP payload format defined for DTMF Digits, Telephony Tones and Telephony Signals in RFC 2833 [34]. When BICC signalling is used in the CS network, telephony signals may be sent either inband or out-of-band as defined in ITU-T Recommendation Q.1902.4 [30] and in ITU-T Recommendation Q.765.5 [35]. [If ISUP signalling is used the DTMF tones are sent inband.](#) The following paragraphs describe the Mn interface procedures to transfer DTMF from RTP format defined in RFC 2833 [34] to the CS CN.

Before the actual usage of the telephony signals can occur the sending/receiving of telephony events need to be agreed with the SDP offer-answer mechanism defined in RFC 3264 [36]. The outcome of the negotiation can be e.g. that no telephony events are sent in RTP payload, telephony events are sent only in one direction or in both directions. [If the outcome of the negotiation is that RTP payload telephony events are sent in both directions, the IM-MGW may nevertheless be configured to interwork only mobile originated telephony events.](#)

When the offer-answer mechanism based session parameters negotiation results in an agreement that telephony events are sent in the RTP payload and the needed preconditions are fulfilled, telephony events can be sent in RTP payload. This negotiation can be done at call control signalling phase or during an ongoing call.

If the MGCF and IM-MGW support the reception of the RTP transport of MIME type "telephony events" (as defined in RFC 2833 [34]) from the IMS, the following applies:

- For CS Network Originating Sessions, the MGCF shall include the MIME type "telephony events" with default events in the first SDP offer. After the usage of telephony events is agreed in the subsequent offer-answer parameter exchanges and the needed preconditions defined in RFC 3312 [37] are fulfilled, telephony events can be sent as RTP payload.
- In case of IM CN Subsystem Originating Sessions, the MGCF shall accept the MIME type "telephony events" with default events in any SDP answer when it received such an offer.

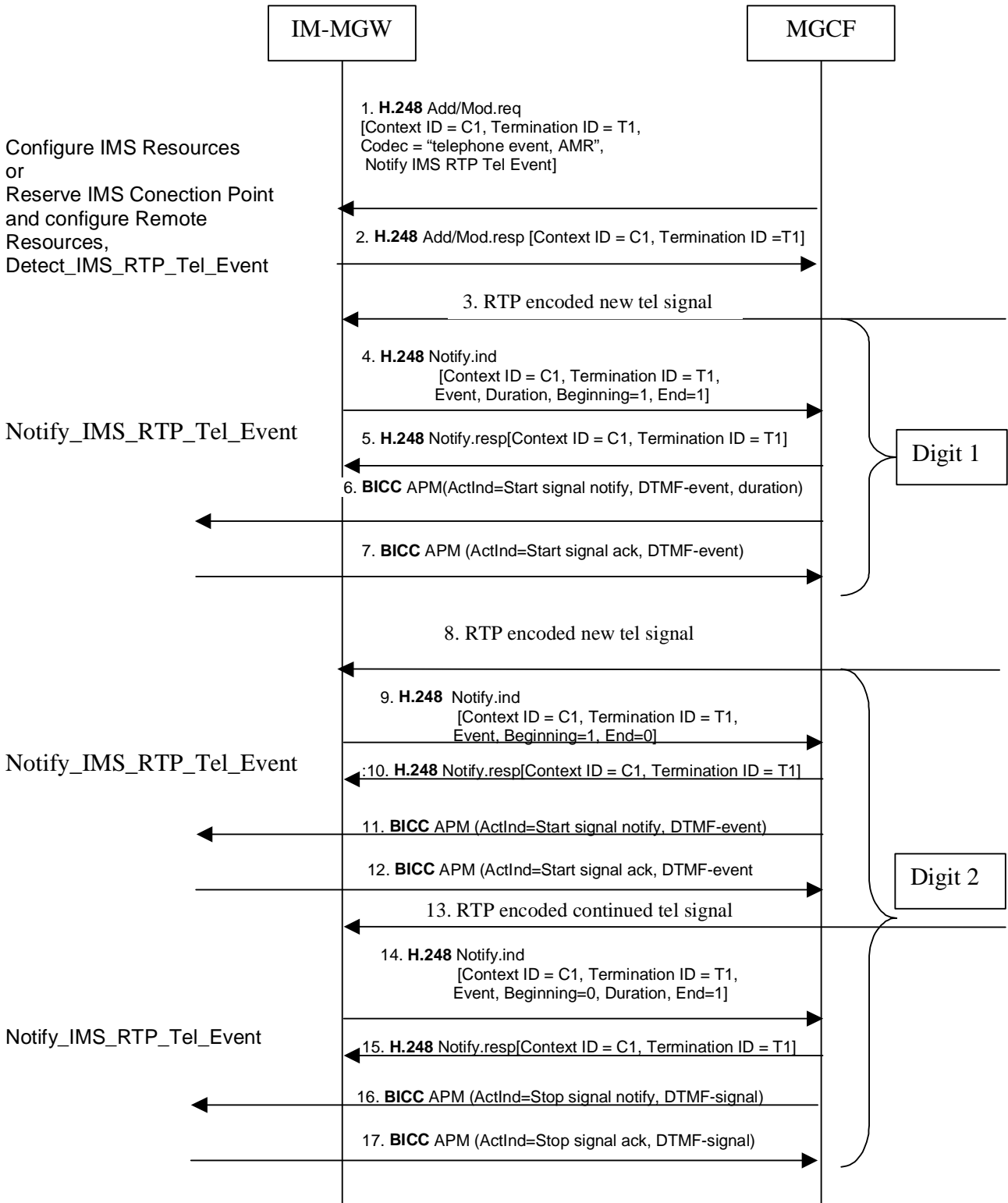
### 9.2.8.1 Sending DTMF digits out-of-band to CS CN (BICC)

[For the IM CN subsystem originating session, the MGCF shall use the "Configure IMS Resources" procedure as described in Clause 9.2.2. For the IM CN subsystem terminated session, the MGCF shall use the "Reserve IMS Connection Point and Configure Remote Resources" procedure as described in Clause 9.2.3. If DTMF is supported, the MGCF shall include "telephony event" along with the selected speech codecs within the "local IMS resources" Parameter of these procedures. The same termination shall be used to receive DTMF and speech of the same call.](#)

[Furthermore,](#) the MGCF shall use the "Detect IMS RTP Tel Signal" procedure to request the MGW to detect incoming telephony events from the IMS and notify the MGCF about the detected events. The MGW shall use the "Notify IMS RTP Tel Event" procedure for this notification. The termination used to receive DTMF shall be placed in the same context used for the speech of the same call. If the IM-MGW received a "Detect IMS RTP Tel Event" procedure for a termination, the IM-MGW shall not forward inband to the CS network any DTMF received at this termination.

Figure 48 shows the message sequence chart when DTMF digits are received from the IM CN subsystem in the RTP payload. For the first digit, the received RTP message contains all information including the duration and only a single notification is received. For the second digit, the start and the end of the DTMF digit are notified separately.





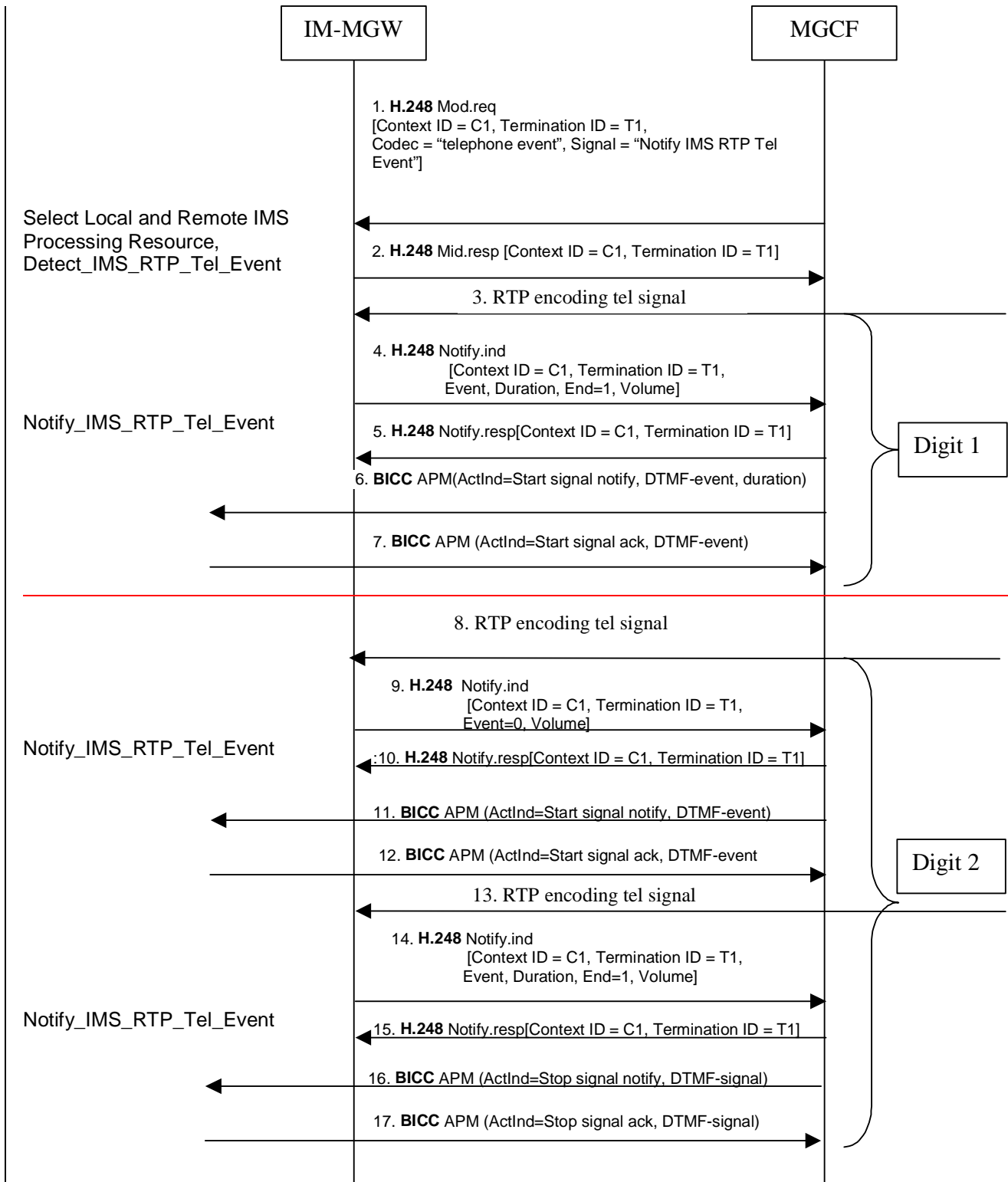


Figure 48: Activation of notification of DTMF digits received in RTP and examples of sending the digits out-of-band to CS CN (message sequence chart)

### 9.2.8.2 Sending DTMF digits inband to CS CN (ISUP or BICC)

For the IM CN subsystem originating session, the MGCF shall use the "Reserve IMS Multimedia Processing Resource Configure IMS Resources" procedure as described in Clause 9.2.2. For the IM CN subsystem terminated session, the MGCF shall use the "Reserve IMS Connection Point and Configure Remote Resources" procedure as described in Clause 9.2.3. If DTMF is supported, the MGCF shall include "telephone event" along with the selected speech codecs with the Codec parameter within the "local IMS resources" Parameter of these procedures set to "telephone event" to request the MGW to detect incoming telephone events and transform them into speech signals on

the CS side. ~~The MGCF shall use the "Change IMS Through Connection" procedure to request the MGW to backward through connect the termination used to receive DTMF from the IMS side.~~ The same termination shall be used to receive DTMF ~~shall be placed the same context used for the~~ and speech of the same call.

Figure 49 shows the message sequence chart to configure the IM-MGW to receive DTMF detection on the IMS side and transfer the DTMF inband on the CS side.

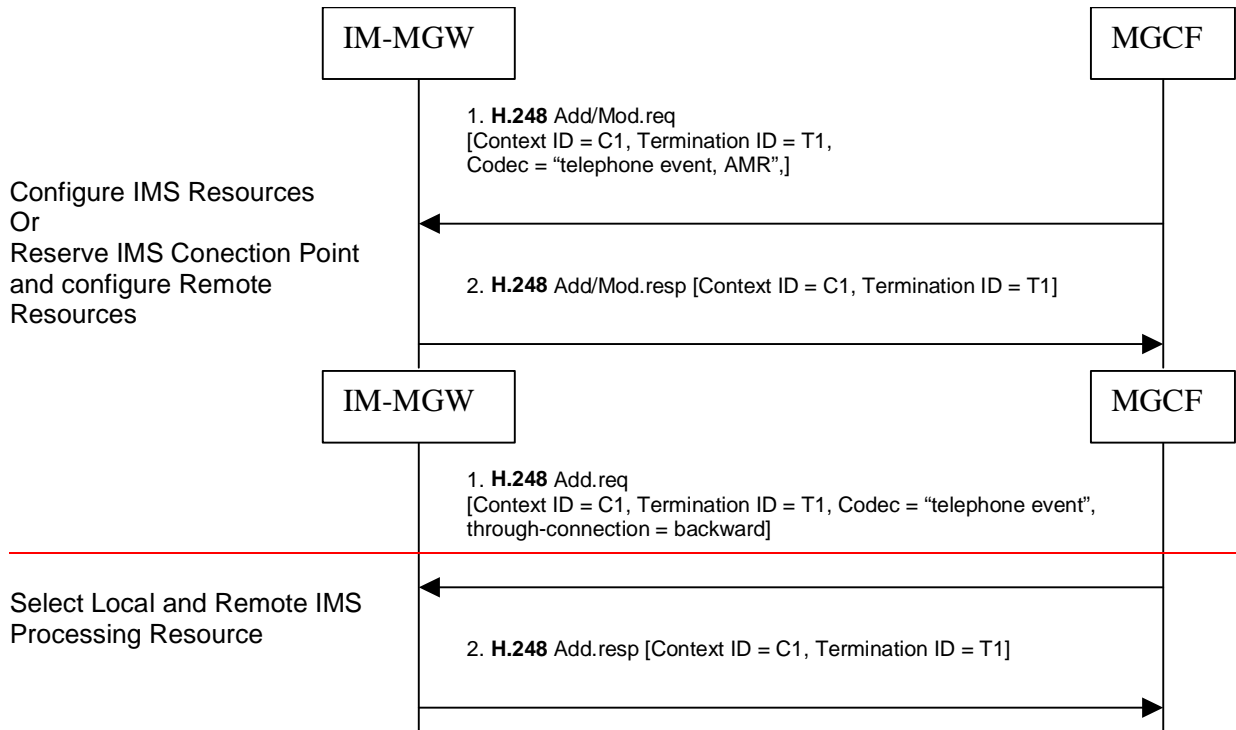


Figure 49: Activation of processing of DTMF digits received in RTP for sending the digits inband to CS CN (message sequence chart)

## CHANGE REQUEST

⌘ **29.163** **CR 012** ⌘ rev **5** ⌘ Current version: **6.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Corrections to clause 9 of TS 29.163		
<b>Source:</b>	⌘ TSG_CN WG3		
<b>Work item code:</b>	⌘ IMS-CCR-Mn	<b>Date:</b>	⌘ 08/10/2003
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The present proposal for the the session set-up to and from IMS assumes that it is possible to set the reserve value for only the local or remote control descriptor. However in H.248 the reserve value is a local control descriptor and therefore applicable for both local and remote descriptors. This means that we must be able to handle that multiple codecs can be received from the MGW is a response.  The specification becomes more understandable if the same expression is used for the same thing.  Multiple local codecs may be received in response from the MGW. Thus leading to that multiple codecs may be sent to IMS.
<b>Summary of change:</b>	⌘ The reserve value/group parameter is applicable both for local and remote descriptor. Therefore, multiple codecs can be received in a response from the MGW. SDP will always be received in all concerned messages from the IM-CN. A number of editorial changes are made to align the wording in the different sections.
<b>Consequences if not approved:</b>	⌘

<b>Clauses affected:</b>	⌘ Clause 9.2.2.1.3, 9.2.2.1.4, 9.2.2.1.8, 9.2.2.2.2, 9.2.2.2.3, 9.2.2.3.2, 9.2.2.3.3, 9.2.3.1.2, 9.2.3.2.3, 9.2.3.2.4, 9.2.3.3.3, 9.2.3.3.4.						
<b>Other specs</b>	⌘	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

**Affected:**

<input checked="" type="checkbox"/>	Test specifications
<input checked="" type="checkbox"/>	O&M Specifications

**Other comments:** ☞

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Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ☞ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## First modified section

### 9.2.2.1.3 IM CN subsystem side termination reservation

On receipt of an initial INVITE (signal 1 in figure 34) the MGCF shall initiate the Reserve IMS Connection Point and Configure Remote Resources procedure (signal 3 and 4 in figure 34). From the received SDP and local configuration data the MGCF:

Shall send the appropriate remote codec(s), the remote UDP port and the remote IP address to the IM-MGW. The remote UDP port and IP address refer to the destination of user plane data sent towards the IM CN subsystem. The remote codec(s) are the codec(s) the IM-MGW may select for user plane data sent towards the IM CN subsystem.

Shall indicate to the IM-MGW the appropriate local codec(s) and request a local IP address and UDP port. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. The local codec(s) are the codec(s) the IM-MGW may select to receive user plane data from the IM CN subsystem.

If DTMF support together with speech support is required, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW

Shall reply to the MGCF with the selected local codec(s) and the selected remote codec(s) and the selected local UDP port and IP address.

Shall reserve resources for those codec(s).

The MGCF shall send the local codec(s), UDP port and IP address to the IMS in the Session Progress (signal 9 in figure 34).

## Next modified section

### 9.2.2.1.4 IM CN subsystem side session establishment

Dependent on what the MGCF receives in the -PRACK message (signal 10 in figure 34), the MGCF may initiate the Configure IMS Resources procedure. If no SDP is received, or if the received SDP does not contain relevant changes compared to the previous SDP sent to the IMS in signal 9 in figure 34, the procedure is not invoked. Otherwise the MGCF shall use the Configure IMS Resources procedure to provide to the IM-MGW

-The appropriate remote codec(s), the remote UDP port and the remote IP address.

Optionally the appropriate local codec(s), UDP port and IP address.

If DTMF support together with speech support is required, the reserve value indicator shall be set to "true".

The IM-MGW shall:

Reply to the MGCF with the selected remote codec(s).

Reply to the MGCF with the selected local codec(s), ~~if the MGCF supplied local codec(s)~~,

Update the codec reservation and remote IP ~~address and configuration data~~ remote UDP port in accordance with the received information.

The MGCF shall include the selected codec(s) and ~~codec number(s)-UDP port~~ and ~~other-IP address connection data~~ in an ~~SDP answer~~ 200 OK (PRACK) (signal 11 in figure 34) sent back to the IMS.

## Next modified section

### 9.2.2.1.8 Message sequence chart

Figure 34 shows the message sequence chart for the IM CN subsystem originating session with BICC forward bearer establishment where the selection of IM-MGW is done before the sending of the IAM. In the chart the MGCF requests the seizure of an IM CN subsystem side termination. When the APM is received from the succeeding node, the MGCF requests the seizure of a CS network side bearer termination and the establishment of the bearer. When the MGCF receives an answer indication, it requests the IM-MGW to both-way through-connect the terminations.

## Next modified section

### 9.2.2.2 BICC backward bearer establishment

#### 9.2.2.2.2 IM CN subsystem side termination reservation

On receipt of an initial INVITE (signal 1 in figure 35) the MGCF shall initiate the Reserve IMS Connection Point and Configure Remote Resources procedure (signal 3 and 4 in figure 35). From the received SDP and local configuration data the MGCF:

Shall send the appropriate remote codec(s), the remote UDP port and the remote IP address to the IM-MGW. The remote UDP port and IP address refer to the destination of user plane data sent towards the IM CN subsystem. The remote codec(s) are the codec(s) the IM-MGW may select for user plane data sent towards the IM CN subsystem.

Shall indicate to the IM-MGW the appropriate local codec(s) and request a local IP address and UDP port. The local UDP port and IP address are used by the IM-MGW to receive user plane data from the IM CN subsystem. The local codec(s) are the codec(s) the IM-MGW may select to receive user plane data from the IM CN subsystem.

If DTMF support together with speech support is required, the reserve value indicator for shall be set to "true".

The IM-MGW shall

Reply to the MGCF with the selected local codec(s) and the selected remote codec(s) and the selected local UDP port and IP address.

Reserve resources for those codec(s).

The MCGF shall send the local codec(s), UDP port and IP address to the IMS in the ~~SDP answer~~ Session Progress (signal 5 in figure 35).

## Next modified section

### 9.2.2.2.3 IM CN subsystem side session establishment

Dependent on what the MGCF receives in the PRACK message (signal 9 in figure 35) the MGCF may initiate the Select Configure IMS Resources procedure (signals 10 and 11 in figure 35). If no SDP is received, or if the received SDP does not contain relevant changes compared to the previous SDP the procedure is not invoked. Otherwise the MGCF shall use the Configure IMS Resources procedure to provide to the IM-MGW.

the appropriate remote codec(s), the remote UDP port and the remote IP address.-

optionally if DTMF support together with speech support is required, the reserve value indicator shall be set to "true".

The IM-MGW shall:

Reply to the MGCF with the selected remote codec(s).

Reply to the MGCF with the selected local codec(s), if the MGCF supplied local codec(s).

Update the codec reservation and remote IP address and remote UDP port ~~configuration data~~ in accordance with the received information.

The MGCF shall include the selected codec(s), ~~and port number(s) and other~~ IP address and UDP port ~~connection data~~ in an ~~SDP answer~~ 200 OK (PRACK) (signal 12 in figure 35) sent back to the IMS

## Next modified section

### 9.2.2.3.2 IM CN subsystem side termination reservation

On receipt of an initial INVITE (signal 1 in figure 36) the MGCF shall initiate the Reserve IMS Connection Point and Configure Remote Resources procedure (signal 3 and 4 in figure 36). From the received SDP and local configuration data the MGCF

- shall send the appropriate remote codec(s), the remote UDP port and the remote IP address to the IM-MGW. The remote UDP port and IP address refer to the destination of user plane data sent towards the IM CN subsystem. The remote codec(s) are the codec(s) the IM-MGW may select for user plane data sent towards the IM CN subsystem.
- shall indicate to the IM-MGW the appropriate local codec(s) and request a local IP address and UDP port. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. The local codec(s) are the codec(s) the IM-MGW may select to receive user plane data from the IM CN subsystem.
- If DTMF support together with speech support is required, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall

- reply to the MGCF with the selected local codec(s) and the selected remote codec(s) and the selected local UDP port and IP address.
- reserve resources for those codec(s).



The MGCN shall send selected local codec(s) and the selected remote codec and the selected local UDP port and IP address to the IMS in the Session Progress (signal 5 in figure 36)

## Next modified section

### 9.2.2.3.3 IM CN subsystem side session establishment

Dependent on what the MGCN receives in the PRACK message (signal 9 in figure 35) the MGCN may initiate the Configure IMS Resources procedure. If no SDP is received, or if the received SDP does not contain relevant changes compared to the previous SDP, the procedure is not invoked. Otherwise the MGCN shall use the Configure IMS Resources procedure to provide to the IM-MGW

- the appropriate remote codec(s), the remote UDP port and the remote IP address.
- optionally,  the appropriate local codec(s), UDP port and IP address
- 
- If DTMF support together with speech support is required, the reserve value indicator shall be set to "true".

~~Note: This may be triggered if the requirement for DTMF is withdrawn.~~

The IM-MGW shall:

- reply to the MGCN with the selected remote codec.
- reply to the MGCN with the selected local codec(s), if the MGCN supplied local codec(s).
- update the codec reservation and remote IP address and UDP port ~~configuration data~~ in accordance with the received information.

The MGCN shall include the selected codec(s), ~~and~~ UDP port ~~number(s)~~ and ~~other IP~~ address ~~connection data~~ in an ~~SDP answer~~ 200 OK (PRACK) (signal ~~120~~ 129 in figure 36) sent back to the IMS.

## Next modified section

### 9.2.3.1.2 IM CN subsystem side termination reservation

The MGCN shall derive from configuration data one or several appropriate local codec(s) the IM-MGW may use to receive user plane data from the IM CN subsystem. The MGCN shall use the Reserve IMS Connection Point procedure (signals 2 and 3 in figure 37). Within this procedure, the MGCN shall indicate the local codec(s) and request a local IP address and UDP port from the IM-MGW. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. If DTMF support together with speech support is required, or if the resources for multiple speech codecs shall be reserved at this stage, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply to the MGCN with the selected local codec(s) and the selected local IP address and UDP port.

The MGCN shall send this information ~~in the~~ in the INVITE (signal 4 in figure 37) to the IM CN subsystem.

## Next modified section

### 9.2.3.1.3 IM CN subsystem side session establishment

The MGCF shall use the Configure IMS Resources procedure (signals 7 and 8 in figure 37) to provide configuration data (derived from SDP received in signal 6 in figure 37 and local configuration data) to the IM-MGW as detailed below:

- The MGCF shall indicate the remote IP address and UDP port, i.e. the destination IP address and UDP port for data sent in the user plane towards the IM CN subsystem,
- The MGCF shall indicate the remote codec(s), i.e. the speech codec(s) for data sent in the user plane towards the IM CN subsystem. ~~The MGCF shall derive these speech codec(s) from received SDP and own configuration data.~~
- ~~\_\_\_\_\_~~ The MGCF may indicate the local codec(s) and the local IP address and UDP port. The MGCF shall indicate the local codec(s) if a change is required.
- ~~\_\_\_\_\_~~ ~~If~~ DTMF support together with speech support is required, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply with the selected remote codec(s) and reserve resources for ~~these is~~ codec(s). If local codec(s) were received, ~~the~~ IM-MGW shall also reply with the selected local codec(s) and reserve the corresponding resources.

If the selected local codec(s) differ from the codec(s) received in the SDP of signal 6 in figure 37, ~~T~~he MGCF shall send the local reserved codec(s), and the local IP address and UDP port in the PRACK (signal 9 in figure 37) to the IMS.

## Next modified section

### 9.2.3.2.3 IM CN subsystem side termination reservation

The MGCF shall derive from configuration data one or several appropriate local codec(s) the IM-MGW may use to receive user plane data from the IM CN subsystem. The MGCF shall use the Reserve IMS Connection Point procedure (signals 2 and 3 in figure 38). Within this procedure, the MGCF shall indicate the local codec(s) and request a local IP address and UDP port from the IM-MGW. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. If DTMF support together with speech support is required, or if the resources for multiple speech codecs shall be reserved at this stage, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply to the MGCF with the selected local codec(s) and the selected local IP address and UDP port.

The MGCF shall send this information in the INVITE (signal 6 in figure 38) to the IM CN ~~subsystem-~~subsystem.

### 9.2.3.2.4 IM CN subsystem side session establishment

The MGCF shall use the Configure IMS Resources procedure (signals 9 and 10 in figure 38) to provide configuration data (derived from SDP received in signal 8 in figure 38 and local configuration data) to the IM-MGW as detailed below:

- The MGCF shall indicate the remote IP address and UDP port, i.e. the destination IP address and UDP port for data sent in the user plane towards the IM CN subsystem

- The MGCF shall indicate the remote codec(s), i.e. the speech codec(s) for data sent in the user plane towards the IM CN subsystem. ~~The MGCF shall derive these speech codec(s) from received SDP and own configuration data.~~
- ~~\_\_\_\_\_~~The MGCF may indicate the local codec(s) and the local IP address and UDP port. The MGCF shall indicate the local codec(s) if a change is required.
- ~~If~~ DTMF support together with speech support is required, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply with the selected remote codec(s) and reserve resources for this codec. If local codec(s) were received, the IM-MGW shall also reply with the selected local codec(s) and reserve the corresponding resources.

If the selected local codec(s) differ from the codec(s) received in the SDP of signal 8 in figure 38, the MGCF shall send the reserved speech codec(s), and the local IP address and UDP port in the PRACK (signal 11 in figure 38) to the IMS.

## Next modified section

### 9.2.3.3 ISUP

#### 9.2.3.3.3 IM CN subsystem side termination reservation

The MGCF shall derive from configuration data one or several appropriate local codec(s) the IM-MGW may use to receive user plane data from the IM CN subsystem. The MGCF shall use the Reserve IMS Connection Point procedure (signals 2 and 3 in figure 39). Within this procedure, the MGCF shall indicate the local codec(s) and request a local IP address and UDP port from the IM-MGW. The local IP address and UDP port are used by the IM-MGW to receive user plane data from the IM CN subsystem. If DTMF support together with speech support is required, or if the resources for multiple speech codecs shall be reserved at this stage, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply to the MGCF with the selected local codec(s) and the selected local IP address and UDP port.

The MGCF shall send this information in the INVITE (signal 6 in figure 39) to the IM CN ~~subsystem~~-subsystem.

## Last modified section

#### 9.2.3.3.4 IM CN subsystem side session establishment

The MGCF shall use the Configure IMS Resources procedure (signals 9 and 10 in figure 39) to configuration data (derived from SDP received in signal 8 in figure 39 and local configuration data) as detailed below:

- The MGCF shall indicate the remote IP address and UDP port, i.e. the destination IP address and UDP port for data sent in the user plane towards the IM CN subsystem
- The MGCF shall indicate the remote codec(s), i.e. the speech codec(s) for data sent in the user plane towards the IM CN subsystem. ~~The MGCF shall derive these speech codec(s) from received SDP and own configuration data.~~
- ~~\_\_\_\_\_~~The MGCF may indicate the local codec(s) and the local IP address and UDP port. The MGCF shall indicate the local codec(s) if a change is required.

- ~~If~~ If DTMF support together with speech support is required, the reserve value indicator ~~for the local codec(s)~~ shall be set to "true".

The IM-MGW shall reply with the selected remote codec(s) and reserve resources for ~~these~~is codec. If local codec(s) were received, the IM-MGW shall also reply with the selected local codec(s) and reserve the corresponding resources.

If the selected local codec(s) differ from the codec(s) received in the SDP of signal 8 in figure 39, the MGCF shall send the reserved speech codec(s), and the local IP address and UDP port in the PRACK (signal 11 in figure 39) to the IMS.

## CHANGE REQUEST

⌘ **29.163** **CR 014** ⌘ rev **2** ⌘ Current version: **6.0.0** ⌘

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**Proposed change affects:** UICC apps ⌘  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ IM-MGW initiated release		
<b>Source:</b>	⌘ TSG_CN WG3		
<b>Work item code:</b>	⌘ IMS-CCR-Mn	<b>Date:</b>	⌘ 08/10/2003
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ Termination-out-of-service indication is only applicable for TDM termination. A release of the call is only carried out when an release indication is received in the Termination Out-of-Service or MGW Out-of-Service procedure. MGW-Out-Of-Service procedure is used in the description when a "root" termination is out of service. Bearer Released procedure is only used on the BICC network side.
<b>Summary of change:</b>	⌘ The termination-out-of service criterion is deleted as a release cause in the ATM/IP case. A more detailed criterion is added for TDM case. In addition the MGW Out-Of Service procedure is added.
<b>Consequences if not approved:</b>	⌘ The specification is not complete and unnecessary clearing will occur.

<b>Clauses affected:</b>	⌘ Clause 9.2.7.1.1, 9.2.7.1.2 and 9.2.7.2.1										
<b>Other specs Affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
<b>Other comments:</b>	⌘										

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## First modified section

### 9.2.7.1 BICC

#### 9.2.7.1.1 Session release in the CS network side

Upon receiving from the IM-MGW a "Bearer Released" ~~notification-procedure~~ (signal 1 ~~and 2~~ in figure 46) or a "~~Termination-MGW Out-of-Service~~" ~~message-procedure~~ ~~indicating an immediate release (H248 ServiceChangeMethod="Forced")~~ (not depicted in figure 46), the MGCF shall send a REL message to the succeeding node on the CS network side (signal 3 in figure 46). Once the succeeding node has responded with the RLC message (signal 5 in figure 46), the MGCF shall release the resources for the CS network side in the IM-MGW, unless the "~~MGW Termination Out-of-Service~~" ~~procedure~~ ~~message referred to the "root" termination (see ITU-T H.248.1 [2])~~ ~~was received~~.- If any resources were seized in the IM-MGW, the MGCF shall use the "Release Termination" procedure to indicate to the IM-MGW that the CS network side bearer termination shall be removed (signals 6 and 7 in figure 46).

Note: Other actions related to MGW Out-Of-Service procedure is defined in 3GPP TS 23.205 [27].

## Next modified section

#### ~~9.2.7.1.2~~ 9.2.7.1.2 Session release in the IM CN subsystem side

Upon receiving from the IM-MGW a "Bearer Released" procedure (signals 1 and 2 in figure 46) on the CS network side termination in the context or a "MGW Out-of-Service" procedure indicating an immediate ~~the~~ release (H248 ServiceChangeMethod="Forced") (not depicted in figure 46), the MGCF shall send a BYE/CANCEL message to the IM CN subsystem side (signal 4 in figure 46) Upon receiving from the IM-MGW a "Bearer Released" procedure on the CS network side termination in the context, the MGCF shall also release the resources in the IM-MGW serving the relevant Mb interface connection by using the "Release IMS Termination" procedure (signals 8 and 9 in figure 46). The MGCF also expects to receive a 200 OK [BYE] message from the IM CN subsystem side (signal 10 in figure 46).

Note: Other actions related to MGW-Out-Of-Service procedure is defined in 3GPP TS 23.205 [27].

## Next modified section

## 9.2.7.2 ISUP

### 9.2.7.2.1 Session release in the CS network side

Upon receiving from the IM-MGW a "Termination Out-of-Service" ~~message~~ [procedure indicating an immediate release](#) (signals 1 and 2 in figure 47) [or a "MGW Out-of-Service procedure" \(not depicted in figure 47\) indicating an immediate release \(H248 ServiceChangeMethod="Forced"\)](#) the MGCF shall send a REL message to the succeeding node (signal 3 in figure 47). Upon receiving from the IM-MGW a "Termination Out-of-Service" ~~message~~ [procedure indicating an immediate release not referring to the "root" termination \(see ITU-T Recommendation H.248.1 \[2\]\)](#), the MGCF shall also release the resources for the corresponding CS network side termination(s) in the IM-MGW. If any resources were seized in the IM-MGW, the MGCF shall use the "Release TDM Termination" procedure to indicate to the IM-MGW that the CS network side bearer termination can be removed (signals 7 and 8 in figure 47). The MGCF ~~shall~~ also [expects](#) to receive a RLC message on the CS network side (signal 9 in figure 47) [before the circuit is reselectable](#).

[Note: Other actions related to "MGW-Out-Of-Service" procedure is defined in 3GPP TS 23.205 \[27\].](#)

## Last modified section

### 9.2.7.2.2 Session release in the IM CN subsystem side

Upon receiving from the IM-MGW a "Termination Out-of-Service" ~~message~~ [procedure indicating an immediate release](#) (signal ~~1~~ [and 2](#) in figure 47) [on the CS termination in the context or a "MGW Out-of-Service procedure" \(not depicted in figure 47\) indicating an immediate release, \(H248 ServiceChangeMethod="Forced"\)](#) the MGCF shall send a BYE/~~CANCEL~~ message to the IM CN subsystem side (signal 4 in figure 47). Upon receiving from the IM-MGW a "Termination Out-of-Service" ~~message~~ [procedure indicating an immediate release on the CS termination in the context not referring to the "root" termination \(see ITU-T Recommendation H.248.1 \[2\]\)](#), the MGCF shall also release the resources in the IM-MGW for the corresponding terminations towards the IM CN subsystem using the "Release IMS Termination" procedure (signals 5 and 6 in figure 47). The MGCF ~~shall~~ also [expects](#) to receive a 200 OK [BYE] message from the IM CN subsystem side (signal 10 in figure 47).

[Note: Other actions related to "MGW-Out-Of-Service" procedure is defined in 3GPP TS 23.205 \[27\].](#)

