3GPP TSG-CN Meeting #23 **NP-040083**
10th - 12th March 2004. Phoenix, USA.

Source: **TSG CN WG3**

Title: **CRs to Rel-6 on Work Item IMS-CS-IW**

Agenda item: **9.13**

Document for: **APPROVAL**

Introduction:

This document contains **6** CRs to **Rel-6 on Work Item IMS-CS-IW**, that have been agreed by **TSG CN WG3**, and are forwarded to TSG CN Plenary for approval.

WG_tdoc	Spec	CR	R	Cat	Title	Rel	C_Ver
N3-040121	29.163	030	2	F	Reason Header	Rel-6	6.1.0
N3-040122	29.163	031	2	B	Informative annex for misalignments with Q.1912.5	Rel-6	6.1.0
N3-040124	29.163	032	2	F	Criteria for sending UPDATE in BICC	Rel-6	6.1.0
N3-040095	29.163	034	1	F	Impact of Forking on Incoming call interworking	Rel-6	6.1.0
N3-040123	29.163	035	2	F	Impact of Forking on Outgoing call interworking	Rel-6	6.1.0
N3-040097	29.163	036	1	F	Impact of Forking on COLP supplementary service	Rel-6	6.1.0

3GPP TSG-CN WG3 Meeting #31 **N3-040095**
Atlanta, USA. 16th - 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **034** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Impact of Forking on Incoming call interworking
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IMS-CCR-IWCS
Date:	⌘	06/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)*

Reason for change:	⌘	Impact of Forking on Incoming call interworking not described. Forking is allowed in IMS.
Summary of change:	⌘	Due to forking, the I-MGCF may receive additional similar INVITE requests. The I-MGCF shall not interwork these requests but reject them following standard SIP procedures
Consequences if not approved:	⌘	Specification incomplete

Clauses affected:	⌘	7.2.3.1.1, 7.3.3.1.1

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

7.2.3 SIP-ISUP protocol interworking

When a coding of a parameter value is omitted it implies that it is not affected by the interworking and the values are assigned by normal protocol procedures.

7.2.3.1 Incoming call interworking from SIP to ISUP at I-MGCF

7.2.3.1.1 Sending of IAM

On reception of ~~the~~ a SIP INVITE requesting an audio session, the I-MGCF shall send ~~the~~ an IAM message.

The I-MGCF shall interwork forked INVITE requests with different request URIs.

Next modfied Section

7.3.3 SIP-BICC protocol interworking

7.3.3.1 Incoming call interworking from SIP to BICC/ISUP at I-MGCF

7.3.3.1.1 Sending of IAM

On reception of ~~the~~ a SIP INVITE requesting an audio session, the I-MGCF shall send ~~the~~ an IAM message.

The I-MGCF shall interwork forked INVITE requests with different request URIs.

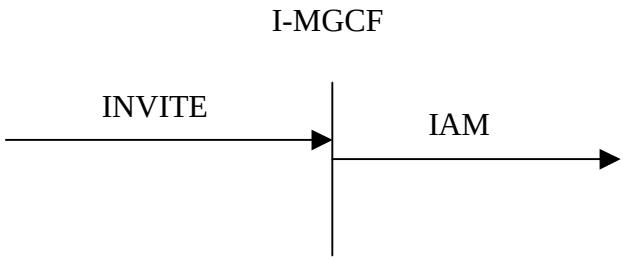

Figure 28: receipt of Invite

3GPP TSG-CN WG3 Meeting #31 **N3-040097**
Atlanta, USA. 16th - 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **036** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Impact of Forking on COLP supplementary service
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IMS-CCR-IWCS
Date:	⌘	06/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)

Reason for change:	⌘	Forking is not considered in current text.
Summary of change:	⌘	COLP must be derived from P-asserted-ID received within correct SIP dialogue, which becomes estabilised by 200 OK.
Consequences if not approved:	⌘	Wrong ID may be presented as COLP in case of forking

Clauses affected:	⌘	7.4.2.2

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

7.4.2.2 Outgoing Call Interworking from BICC/ISUP to SIP at O-MGCF

7.4.2.2.1 IAM to INVITE interworking (ISUP to SIP calls)

The O-MGCF determines that the COLP service has been requested by the calling party by parsing the "Optional Forward Call Indicators" field of the incoming IAM. If the "Connected Line Identity Request indicator" is set to "requested" then the BICC/ISUP to SIP interworking node shall ensure that any backwards "connected party" information is interworked to the appropriate parameters of the ISUP ANM or CON message sent backwards to the calling party as detailed within this clause.

The O-MGCF has to store the status of the "Connected Line Identity Request indicator".

7.4.2.2.2 1XX to ANM or CON interworking

If the P-Asserted-Identity header field is included within a 1XX SIP response, the identity shall be stored within the O-MGCF together with information about the SIP dialogue of the 1XX SIP response and be included within the ANM or CON message. In accordance with ISUP procedures a connected number shall not be included within the ACM message. The mapping of the of the P-Asserted-Identity and Privacy header fields is shown in tables 23 and 24.

7.4.2.2.3 200 OK (INVITE) to ANM/CON interworking

Tables 23 and 24 specify the interworking required in the case when the calling party has invoked the COLP service. The tables also indicate the interworking procedures required if the calling party has invoked the COLP service and the called party has or has not invoked the COLR service.

If no P-Asserted-Identity header field is provided within the 200 OK (INVITE) message, the stored information previously received in last provisional 1XX response of the same SIP dialogue shall be used.

Note: Due to forking, other P-Asserted-Identities may have been received in different SIP dialogues.

If the Calling Party has requested the COLP service (as indicated by the stored request status) but the 200 OK (INVITE) and previous ~~1xx~~ 1XX provisional responses do not include a P-Asserted-Identity header field, the O-MGCF shall set up a network provided Connected Number with an Address not Available indication.

If the P-Asserted-Identity is available then the Connected number has to be setup with the screening indication network provided. The mapping of the P-Asserted-Identity and Privacy (if available) is shown in table 24.

Table 23 – Connected number parameter mapping

← ANM/CON	← 200 OK INVITE
Connected Number (Network Provided)	P-Asserted-ID
Address Presentation Restriction Indication	Privacy Value Field

Table 24: Mapping of P-Asserted-Identity and privacy headers to the ISUP/BICC connected number parameter

SIP component	Value	BICC/ISUP parameter / field	Value
P-Asserted-Identity header field (note 1)	E.164 number	Connected Number	
		Number incomplete indicator	"Complete"
		Numbering Plan Indicator	"ISDN/Telephony (E.164)"
		Nature of Address Indicator	If CC encoded in the URI is equal to the CC of the country where MGCF is located AND the next BICC/ISUP node is located in the same country then set to "national (significant) number" else set to "international number"
		Address Presentation Restricted Indicator (APRI)	Depends on priv-value in Privacy header.
		Screening indicator	Network Provided
Addr-spec	"CC" "NDC" "SN" from the URI	Address signal	if NOA is "national (significant) number" then set to "NDC" + "SN" If NOA is "international number" Then set to "CC"+" NDC"+"SN"
Privacy header field is not present		APRI	Presentation allowed
Privacy header field	priv-value	APRI	"Address Presentation Restricted Indicator"
priv-value	"header"	APRI	Presentation restricted
	"user"	APRI	Presentation restricted
	"none"	APRI	Presentation allowed
	"id"	APRI	Presentation restricted
Note 1: It is possible that a P-Asserted –Identity header field includes both a TEL URI and a SIP or SIPS URI. In this case, the TEL URL is used.			

3GPP TSG-CN WG3 Meeting #31 **N3-040121**
Atlanta, USA. 16th - 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **030** ⌘ **rev** **2** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Reason Headers
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IW-CCR-IWCS
Date:	⌘	20/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)*

Reason for change:	⌘	CN1 agreed on the N1-031681 and N1-031438 to incorporate the reason header to IMS as optional.
Summary of change:	⌘	Introduce an strictly optional mapping of the Optional Reason Header at the I-MGCF and O-MGCF in the different scenarios where it may appear.
Consequences if not approved:	⌘	Take into consideration the newly introduced Reason Header, and indicate an option to map it.

Clauses affected:	⌘	7.2.3.1.7, 7.2.3.2.12, 7.2.3.2.13

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

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 *******

7.2.3.1.7 Coding of the REL

The SIP BYE and CANCEL requests are mapped into a REL message with cause value #16 and #31 respectively as indicated in table 8.

Table 8: Coding of REL

SIP Message →	REL →
Request	**cause parameter**
BYE	Cause value No. 16 (normal clearing)
CANCEL	Cause value No. 31 (normal unspecified)

Note: If an optional Reason header field is included in the BYE or CANCEL, then the Cause Value can be mapped to the ISUP Cause Value field in the ISUP REL. The mapping between the Cause Indicators parameter and the Reason header is out of the scope of the present specification.

****** NEXT MODIFIED SECTION ******

****** NEXT MODIFIED SECTION ******

7.2.3.2.12 Receipt of Status Codes 4xx, 5xx or 6xx

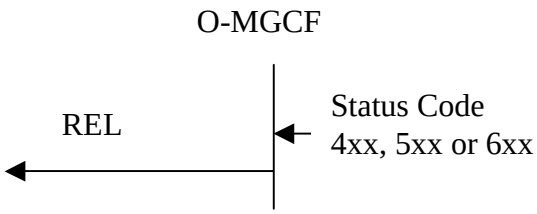

Figure 21: Receipt of Status codes 4xx, 5xx or 6xx

When receiving SIP response with status codes 4xx, 5xx or 6xx, the O-MGCF shall send a REL message. The coding of the Cause parameter value in the REL message is derived from the SIP Status code received according to table 18. The Cause Parameter Values are defined in ITU-T Recommendation Q.850 [38].

In all cases where SIP itself specify additional SIP side behaviour related to the receipt of a particular INVITE response these procedures should be followed in preference to the immediate sending of a REL message to BICC/ISUP.

If there are no SIP side procedures associated with this response, the REL shall be sent immediately.

Note: If an optional Reason header is included in a 4XX, 5XX, 6XX, then the Cause Value of the Reason header can be mapped to the ISUP Cause Value field in the ISUP REL message. The mapping of the optional Reason header to the Cause Indicators parameter is out of the scope of the present specification.

[skipped text]

7.2.3 2.13 Receipt of a BYE

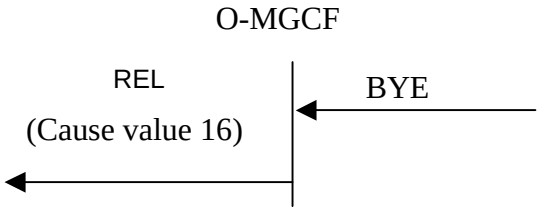

Figure 22: Receipt of BYE method

Note: If an optional Reason header field is included in the BYE, then the Cause Value can be mapped to the ISUP Cause Value field in the ISUP REL. The mapping of the Reason header to the Cause Indicators parameter is out of the scope of the prsent specification.

On receipt of a BYE method, the O-MGCF sends a REL message with Cause Code value 16 (Normal Call Clearing).

****** END OF MODIFIED SECTIONS ********

3GPP TSG-CN WG3 Meeting #31 **N3-040122**
Atlanta, USA. 16th - 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **031** ⌘ **rev** **2** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Informative annex for missalignments with Q.1912.5
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IW-CCR-IWCS
Date:	⌘	20/02/2004
Category:	⌘	**B**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)*

Reason for change:	⌘	In CN3#28 Meeting in San Diego, it was agreed to keep track of the list of misalignments between 29.163 and Q.1912.5. This list would be incorporated to an stable version of TS 29.163 as an Annex. This way CN3 will be working on the direction of fulfilling Plenary mandate of keeping both specification as aligned as possible, and the unsolved differences between them will be well documented and reasoned in front of the plenary. Also this Annex will be useful for the designer community and operators to understand the main differences between 3GPP and ITU recommendations for the SIP-BICC/ISUP interworking. Although the list may be incomplete, the stability of both 3GPP and ITU documents seems to recommend the inclusion of this annex for future tracking instead of the actual way of documenting it.
Summary of change:	⌘	The actual list is incorporated to an annex. Editor's note are added indicating that this list is not completed, and that the reasoning is still To Be Completed
Consequences if not approved:	⌘	The list of misalignments are not part of the specification, and the designer community, and new readers, can miss this important information. Also plenary mandate will be not fulfilled.

Clauses affected:	⌘	2, Annex A, Annex B

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
			X	Test specifications		

	X	O&M Specifications

Other comments: ⌘

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 CLAUSE *********

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] ITU-T Recommendation G.711: "Pulse Code Modulation (PCM) of voice frequencies".

[2] ITU-T Recommendation H.248.1 (2002): "Gateway control protocol: Version 2".

[3] ITU-T Recommendation Q.701 to Q.709: " Functional description of the message transfer part (MTP) of Signalling System No. 7".

[4] ITU-T Recommendations Q.761 to Q.764 (2000): "Specifications of Signalling System No.7 ISDN User Part (ISUP)".

[5] Void.

[6] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[7] Void.

[8] 3GPP TS 24.228: "Signalling flows for the IP multimedia call control based on SIP and SDP".

[9] 3GPP TS 24.229: " IP Multimedia Call Control Protocol based on SIP and SDP".

[10] 3GPP TS 23.002: "Network Architecture".

[11] 3GPP TS 22.228: "Service requirements for the IP Multimedia Core Network Subsystem".

[12] 3GPP TS 23.228: "IP Multimedia subsystem (IMS)".

[13] Void.

[14] 3GPP TS 29.205: "Application of Q.1900 series to Bearer Independent CS Network architecture; Stage 3".

[15] 3GPP TS 29.332: "Media Gateway Control Function (MGCF) – IM-Media Gateway (IM-MGW) interface, Stage 3".

[16] IETF RFC 791: "Internet Protocol".

[17] IETF RFC 768: "User Datagram Protocol".

[18] IETF RFC 2960: "Stream Control Transmission Protocol".

[19] IETF RFC 3261: "SIP: Session Initiation Protocol".

[20] 3GPP TS 29.202: "Signalling System No. 7 (SS7) signalling transport in core network; Stage 3".

[21] IETF RFC 2474: "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

[22] IETF RFC 2475: "An Architecture for Differentiated Services".

[23] IETF RFC 3267: " Real-Time Transport Protocol (RTP) payload format and file storage format for the Adaptive Multi-Rate (AMR) Adaptive Multi-Rate Wideband (AMR-WB) audio codecs".

[24] IETF RFC 793: "Transmission Control Protocol".

[25] 3GPP TS 29.414: "Core network Nb data transport and transport signalling".

[26] 3GPP TS 29.415: "Core network Nb interface user plane protocols".

[27] 3GPP TS 23.205: "Bearer-independent circuit-switched core network; Stage 2".

[28] Void.

[29] ITU-T Recommendation Q.2150.1: "Signalling transport converter on MTP3 and MTP3b".

[30] ITU-T Recommendations Q.1902.1 to Q.1902.6 (07/2001): "Bearer Independent Call Control".

[31] ITU-T Recommendation Q.1950 (2002): "Bearer independent call bearer control protocol".

[32] 3GPP TS 26.236: "Packet switched conversational multimedia applications; Transport protocols".

[33] 3GPP TS 29.232: "Media Gateway Controller (MGC) – Media Gateway (MGW) interface; Stage 3".

[34] IETF RFC 2833: "RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals".

[35] ITU-T Recommendation Q.765.5: "Signalling system No. 7 – Application transport mechanism: Bearer Independent Call Control (BICC)".

[36] IETF RFC 3264: "An Offer/Answer Model with the Session Description Protocol (SDP)".

[37] IETF RFC 3312: "Integration of Resource Management and Session Initiation Protocol (SIP)".

[38] ITU-T Recommendation Q.850 (1998): "Usage of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No. 7 ISDN User Part".

[39] IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification"

[40] IETF RFC 3323: "A Privacy Mechanism for the Session Initiation Protocol (SIP)".

[41] IETF RFC 3325: "Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks".

[42] ITU-T Recommendation Q.730 to Q.737 (12/1999): "ISDN user part supplementary services".

[43] ITU-T Recommendation I.363.5 (1996): "B-ISDN ATM Adaptation Layer specification: Type 5 AAL".

[44] ITU-T Recommendation Q.2110 (1994): "B-ISDN ATM adaptation layer - Service Specific Connection Oriented Protocol (SSCOP)".

[45] ITU-T Recommendation Q.2140 (1995): "B-ISDN ATM adaptation layer - Service specific coordination function for signalling at the network node interface (SSCF AT NNI)".

[46] ITU-T Recommendation Q.2210 (1996): "Message transfer part level 3 functions and messages using the services of ITU-T Recommendation Q.2140".

[47] 3GPP TS 23.221: "Architectural requirements".

[48] ITU-T Recommendation E.164 (05/1997): " The international public telecommunication numbering plan".

[xx] ITU-T Recommendation Q.1912.5: “Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control Protocol or ISDN User Part”

****** END OF FIRST MODIFIED CLAUSE ******

************ NEW CLAUSE ********

Annex A (informative): Summary of differences items between 3GPP TS 29.163 and ITU-T Q.1912.5

The present document specifies the principles of interworking between the 3GPP IM CN subsystem and BICC/ISUP based legacy CS networks, in order to support IMS basic voice calls. A specification exists in the ITU-T that covers similar work: Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control Protocol or ISDN User Part. (ITU-T Q.1912.5 [xx]) in order to support services that can be commonly supported by BICC or ISUP and SIP based network domains. Three profiles are described in the ITU-T specification: A, B, and C. Profile B and C are out of the scope of the present specification.

3GPP intends to strive for alignment with ITU-T Q.1912.5 [xx], however some differences exist. This annex contains a list of these differences. Future revisions of this document will seek to incorporate text to address these differences.

This Annex is intended as an informative tool for the designer community and operators to understand the main differences between 3GPP and ITU recommendations for the SIP-BICC/ISUP interworking.

The list of differences between TS 29.163 and ITU-T Q.1912.5 [xx] is referred to profile A of the latter.

A.1 List of differences

1. Table10 (TS 29.163) vs. Table 22/Q.1912.5 (ITU-T Q.1912.5 [xx])

   Extra entry comprising the case when SIP procedures result in release after answer.

2. Table11 (TS 29.163) vs. Table 25/Q.1912.5 (ITU-T Q.1912.5 [xx])

   Hostportion was removed in 3GPP table.

3. Table 12 (TS 29.163) vs. Table 27/Q.1912.5 (ITU-T Q.1912.5 [xx])

   Use of Tel URL instead of Addr-spec.

4. Table 13 (TS 29.163) vs. Table 28/Q.1912.5 (ITU-T Q.1912.5 [xx])

   Address signal is not mapped.

5. Table 14 (TS 29.163) vs. Table 29/Q.1912.5 (ITU-T Q.1912.5 [xx])

   Tel URL used instead of Addr-spec.

6. Satellite indicator

   It is set to “01 one satellite circuit in the connection”. While in ITU-T Q.1912.5 [xx] is set to “00 No satellite circuit in the connection”

7. The mapping of the Reason Header and the Location Field mapping is missing in the 3GPP specification, whereas in ITU is specified.

   The reason for this is that the Reason Header was included in IMS only as optional. As the reason header is optional, it can be proprietary interworked and in that case ITU-T mapping recommendation can be used.

8. COLP/COLR Service interworked is included in 29.163, and left FFS in ITU-T Q.1912.5 [xx]

********** END OF NEW CLAUSE *****

****** AMENDED CLAUSE ******

Annex BA (informative): Change history

<skipped text>

****** END OF AMENDED CLAUSE *****

3GPP TSG-CN WG3 Meeting #31 **N3-040123**
Atlanta, USA. 16th - 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **035** ⌘ **rev** **2** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Impact of Forking on Outgoing call interworking
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IMS-CCR-IWCS
Date:	⌘	06/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)*

Reason for change:	⌘	Impact of Forking on Outgoing call interworking not described. Forking is allowed in IMS.
Summary of change:	⌘	The O-MGCF shall send an UPDATE for each early dialogue. When, reveiving the first 200 OK(invite), the O-MGCF shall configure the IM-MGW to send data to the remote IP address(es) and UDP port(s) received in the latest SDP within the SIP dialogue of this 200 OK (INVITE), unless the IM-MGW is already configured accordingly. The O-MGCF shall not progress any further early dialogues to established dialogs
Consequences if not approved:	⌘	Specification incomplete

Clauses affected:	⌘	7.2.3.2, 7.3.3.2

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

7.2.3.2.3 Sending of UPDATE

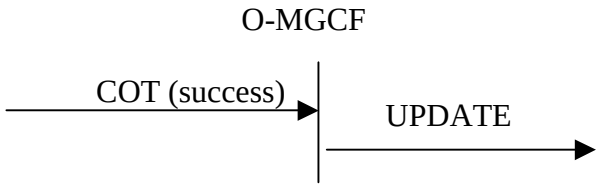

Figure 14: Receipt of COT (success).

When the requested preconditions in the IMS (if any) have been met and if possible outstanding continuity procedures have successfully been completed (COT with the Continuity Indicators parameter set to "continuity check successful" is received), ~~the~~ an SIP UPDATE request ~~is~~ shall be sent for each early SIP dialogue confirming that all the required preconditions have been met.

7.2.3.2.4 Sending of ACM and awaiting answer indication

If the Address Complete Message (ACM) has not yet been sent, the following cases are possible trigger conditions that shall lead to the sending the address complete message (ACM).

~~The sending of an awaiting answer indication is described in clause 9.2.3.3~~

- the detection of end of address signalling by the expiry of Timer T i/w_1 or,

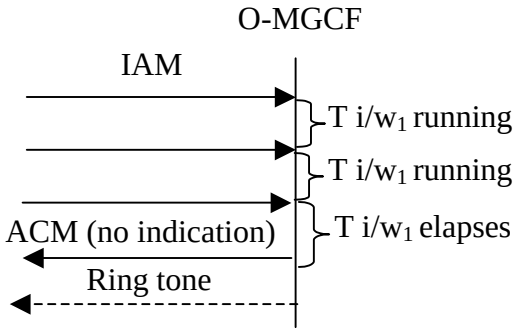

Figure 15: Sending of ACM T i/w_1 elapses

- the reception of the first 180 Ringing or,

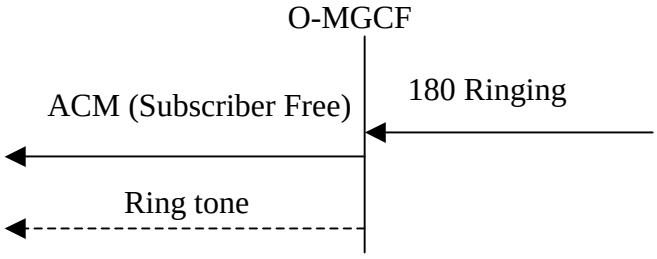

Figure 16: Sending of ACM (Receipt of first 180 ringing)

- 4s to 6 s (Ti/w 2) after the initial INVITE is sent

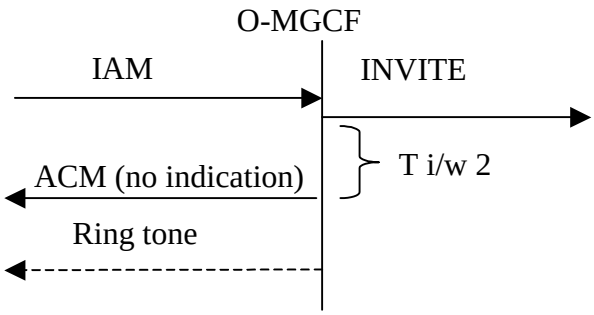

Figure 17: Sending of ACM (Ti/w$_2$ elapses)

The sending of an awaiting answer indication is described in clause 9.2.3.3

7.2.3.2.5 Coding of the ACM

The description of the following ISDN user part parameters can be found in ITU-T Recommendation Q.763 [4].

7.2.3.2.5.1 Backward call indicators

bits AB Charge indicator Contributors

1 0 *charge*

bits DC Called party's status indicator

0 1 *subscriber free* if the 180 Ringing has been received.

0 0 *no indication* otherwise

bits FE Called party's category indicator

0 0 no indication

bits HG End-to-end method indicator

01 no end-to-end method available

bit I Interworking indicator

1 interworking encountered

bit J End-to-end information indicator

0 no end-to-end information available

bit K ISDN user part/BICC indicator

0 ISDN user part not used all the way

bit L Holding indicator (national use)

0 holding not requested

bit M ISDN access indicator

0 terminating access non-ISDN

7.2.3.2.6 Sending of the Call Progress message (CPG)

If the Address Complete Message (ACM) has already been sent, the O-MGCF shall send the Call Progress message (CPG) when receiving the following message:

- the first SIP 180 Ringing provisional response.

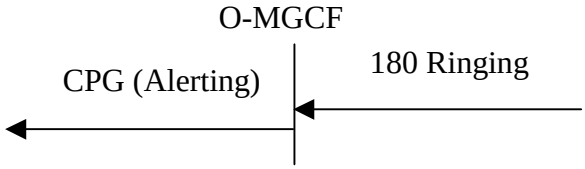

Figure 18: Sending of CPG(Alerting)

7.2.3.2.7 Coding of the CPG

The description of the following ISDN user part parameters can be found in ITU-T Recommendation Q.763 [4].

7.2.3.2.7.1 Event information

bits G-A Event indicator

0 0 0 0 0 0 1 *alerting*

7.2.3.2.7a Receipt of 200 OK(INVITE)

Upon receipt of the first 200 OK (INVITE), the O-MGCF shall send an Answer Message (ANM) or Connect message (CON) as described in clauses 7.2.3.2.8 to 7.2.3.2.11.

The O-MGCF shall not progress any further early dialogues to established dialogues. Therefore, upon the reception of a subsequent final 200 (OK) response for any further dialogue for an INVITE request (e.g., due to forking), the O-MGCF shall:

1) acknowledge the response with an ACK request; and

2) send a BYE request to this dialog in order to terminate it.

7.2.3.2.8 Sending of the Answer Message (ANM)

~~a)~~Upon receipt of the first 200 OK (INVITE), if the ~~address~~ Address C~~c~~omplete ~~message~~ Message (ACM) has already been sent, the ~~interworking exchange~~O-MGCF shall send the Answer Message (ANM) to the preceding exchange.

Note: Through connection and the stop of awaiting answer indication are described in clause 9.2.3.3

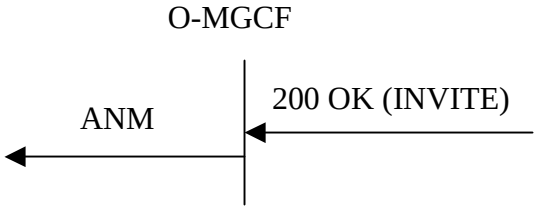

Figure 19: Sending of ANM

7.2.3.2.9 Coding of the ANM

7.2.3.2.9.1 Backwards Call Indicators

If Backwards Call Indicators are included in the ANM, then the coding of these parameters ~~is~~ shall be as described in clause 7.2.3.2.5.1.

7.2.3.2.10 Sending of the Connect message (CON)

Upon receipt of the first 200 OK (INVITE), if the Address Complete Message (ACM) has not yet been sent, the O-MGCF shall send the Connect message (CON) to the preceding exchange.

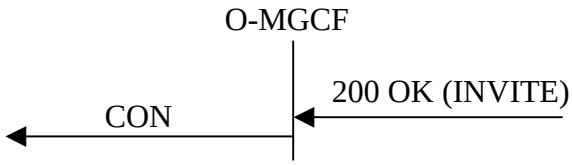

Figure 20: Sending of CON

7.2.3.2.11 Coding of the CON

The description of the following ISDN user part parameters can be found in ITU-T Recommendation Q.763 [4].

7.2.3.2.11.1 Backward call indicators

The Called Party's status indicator (Bit DC) of BCI parameter is set to "no indication". The other BCI indicators shall be set as described in clause 7.2.3.2.5.1

Next modfied Section

7.3.3.2.3 Sending of UPDATE

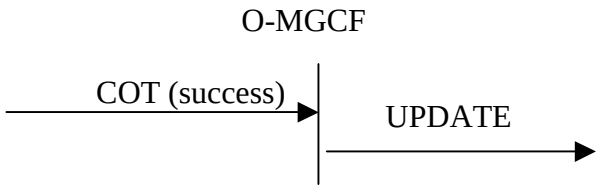

Figure 30: Receipt of COT (success).

The UPDATE ~~is~~ shall be sent for each early SIP dialogue confirming that all the required preconditions have been met when all the following conditions are met.

1. A Continuity message, with the Continuity Indicators parameter set to "continuity" shall be received.
2. The event Bearer Set-up indication – for the forward bearer set-up case where the incoming Connect Type is "notification not required", which indicate successful completion of bearer set-up, shall also be received by the Incoming bearer set-up procedure, (ITU-T Recommendation Q.1902.4 [30] clause 7.5)
3. The requested preconditions in the IMS (if any) are met.

7.3.3.2.4 Sending of ACM and Awaiting Answer indication

See clause 7.2.3.2.4

The sending of an awaiting answer indication is described in clause 9.2.3.1. and clause 9.2.3.2.

7.3.3.2.5 Coding of the ACM

7.3.3.2.5.1 Backward call indicators

See clause 7.2.3.2.5.1

7.3.3.2.6 Sending of the Call Progress message (CPG)

See clause 7.2.3.2.6.

7.3.3.2.7 Coding of the CPG

7.3.3.2.7.1 Event information

See clause 7.2.3.2.7.1.

7.3.3.2.7a Receipt of 200 OK(INVITE)

See clause 7.2.3.2.7a.

7.3.3.2.8 Sending of the Answer Message (ANM)

See clause 7.2.3.2.8.

3GPP TSG-CN WG3 Meeting #31 **N3-0400124**
Atlanta, USA. 16th – 20th February 2004.

CR-Form-v7

CHANGE REQUEST

⌘ **29.163** **CR** **032** ⌘ **rev** **2** ⌘ Current version: **6.1.0** ⌘

*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 ☒

Title:	⌘	Criteria for sending UPDATE in BICC
Source:	⌘	TSG_CN WG3
Work item code:	⌘	IMS-CCR-IWCS
Date:	⌘	20/2/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one 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)*

Reason for change:	⌘	TS 29.163 covers only the forward bearer set-up case when defining the criteria when to to send the Update method when interworking with BICC.
Summary of change:	⌘	Two criteria are added to cover the backward bearer-set up case and the tunneling bearer set-up case
Consequences if not approved:	⌘	The interworking description does not cover all cases. This will lead to that call will be set-up without the CS network bearer is not established and overcharged call as a concequence.

Clauses affected:	⌘	Clause 7.3.3.2.3 is affected			
		Y	**N**		
Other specs Affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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.

Only modified section

7.3.3.2.3 Sending of UPDATE

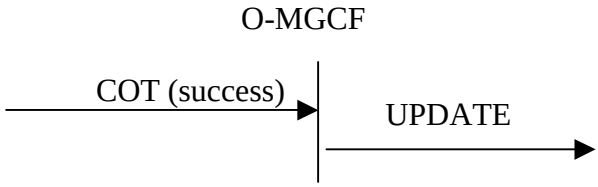

Figure 30: Receipt of COT (success).

The UPDATE is sent confirming that all the required preconditions have been met when ~~all~~ the following conditions are met.

1. ~~1.~~ A Continuity message, with the Continuity Indicators parameter set to "continuity" shall be received.

2. The requested preconditions in the IMS (if any) are met.

In addition, depending on which bearer set-up procedure used for the call one of the following condition shall be met

~~2.~~ • The event Bearer Set-up indication – for the forward bearer set-up case where the incoming Connect Type is "notification not required", which indicate successful completion of bearer set-up, shall also be received by the Incoming bearer set-up procedure, (ITU-T Recommendation Q.1902.4 [30] clause 7.5)

~~3. The requested preconditions in the IMS (if any) are met.~~

- Bearer Set-up Connect indication ~~-~~for the backward call set-up case, which indicate successful completion of bearer set-up, shall also be received by the Incoming bearer set-up procedure, (ITU-T Recommendation Q.1902.4 [30] clause 7.5)

- BNC set-up success indication for cases using bearer control tunnelling which indicate successful completion of bearer set-up, shall also be received by the Incoming bearer set-up procedure, (ITU-T Recommendation Q.1902.4 [30] clause 7.5)