NP-030100

3GPP TSG CN Plenary Meeting #19 12th - 14th March 2003 Birmingham, UK.

Source: TSG CN WG4

Title: Small corrections on Technical Enhancements and Improvements for R99

Agenda item: 7.11

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	538	2	N4-030302	R99	Handover of Group Calls where MSC-B has bearer established	F	3.15.0
29.002	539	2	N4-030303	Rel-4	Handover of Group Calls where MSC-B has bearer established	Α	4.10.0
29.002	540	2	N4-030304	Rel-5	Handover of Group Calls where MSC-B has bearer established	Α	5.4.0
29.002	541	2	N4-030305	Rel-6	Handover of Group Calls where MSC-B has bearer established	Α	6.0.0

	CHANGE REQUEST
*	29.002 CR 538
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the 策 symbols.
Proposed change	affects: UICC apps策 ME Radio Access Network Core Network Z
Title:	Handover of Group Calls where MSC-B has bearer established
Source: #	CN4
Work item code: ∺	TEI Date: 第 14/1/2003
Category: 第	F 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. Release: # R99 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	When performing handover in Voice Group Call Service (VGCS) or Voice Broadcast Service (VBS) it may be the case that MSC-B already has a bearer path for that VB Call or VGCS Call established – there may be a subscriber (or talker in VGCS nomenclature) already attached to MSC-B. Therefore, the handover that takes place is what is referred to as 'Signalling-Only'. In VGCS and VBS, the Group Call Reference identifies participants of a common Group Call. In Signalling Only handover, Group Call Reference is currently not forwarded to MSC-B in any of the signalling messages. Therefore, when MSC-E takes over the dispatcher, it has no way of determining at the MAP level, which Group Call the dispatcher should be attached to. The subscriber would be dropped from the VGCS or VBS Call. This is a serious and frequent misoperation and so the proposed change is an essential correction.
Summary of chang	Add ASCI Call reference (which can be set to Group call reference) to the PrepareHandover message in MAP.
Consequences if not approved:	# Talkers that undergo Signalling-Only handover in VBS or VGCS calls cannot be re-attached to the correct call at MSC-B
Clauses affected:	第 8.4.1, 17.7.1
Other specs affected:	
Other comments:	lpha

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:

- 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.

8.4.1 MAP PREPARE HANDOVER service

8.4.1.1 Definition

This service is used between MSC-A and MSC-B (E-interface) when a call is to be handed over or relocated from MSC-A to MSC-B.

The MAP_PREPARE_HANDOVER service is a confirmed service using the primitives from table 8.4/1.

8.4.1.2 Service primitives

Table 8.4/1: MAP_PREPARE_HANDOVER

Parameter name	Request	Indication	Response	Confirm
Invoke Id	М	M(=)	M(=)	M(=)
Target Cell Id	С	C(=)		
Target RNC Id	С	C(=)		
HO-NumberNotRequired	С	C(=)		
IMSI	С	C(=)		
Integrity Protection Information	С	C(=)		
Encryption Information	С	C(=)		
Radio Resource Information	С	C(=)		
AN-APDU	С	C(=)	С	C(=)
Allowed GSM Algorithms	С	C(=)		
Allowed UMTS Algorithms	С	C(=)		
Radio Resource List	С	C(=)		
RAB ID	С	C(=)		
BSSMAP Service Handover	С	C(=)		
BSSMAP Service Handover	С	C(=)		
List				
RANAP Service Handover	С	C(=)		
ASCI Call Reference	<u>C</u>	<u>C(=)</u>		
Handover Number			С	C(=)
Relocation Number List			С	C(=)
Multicall Bearer Information			С	C(=)
Multiple Bearer Requested	С	C(=)		
Multiple Bearer Not Supported			С	C(=)
Selected UMTS Algorithms			С	C(=)
Chosen Radio Resource			С	C(=)
Information				
User error			С	C(=)
Provider error				0

8.4.1.3 Parameter use

Invoke Id

For definition of this parameter see clause 7.6.1.

Target Cell Id

For definition of this parameter see clause 7.6.2. This parameter is only included if the service is not in an ongoing transaction. This parameter shall also be excluded if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

Target RNC Id

For definition of this parameter see clause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

HO-Number Not Required

For definition of this parameter see clause 7.6.6.

IMSI

For definition of this parameter see clause 7.6.2. This UMTS parameter shall be included if:

- it is available and
- if the access network protocol is BSSAP and
- there is an indication that the MS also supports UMTS.

Integrity Protection Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Encryption Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Radio Resource Information

For definition of this parameter see clause 7.6.6. This GSM parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. If the parameter Radio Resource List is sent , the parameter Radio Resource Information shall not be sent.

AN-APDU

For definition of this parameter see clause 7.6.9.

Allowed GSM Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes allowed GSM algorithms. This GSM parameter shall be included if:

- the service is a part of the Inter-MSC SRNS Relocation procedure and
- Ciphering or Security Mode Setting procedure has been performed.and
- there is an indication that the UE also supports GSM.

Allowed UMTS Algorithms

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if all of the following conditions apply:

- access network protocol is BSSAP and
- Integrity Protection Information and Encryption Information are not available and
- Ciphering or Security Mode Setting procedure has been performed.

Radio Resource List

For definition of this parameter see clause 7.6.6. This parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter Radio Resource Information is sent , the parameter Radio Resource List shall not be sent.

RAB ID

For definition of this parameter see subclause 7.6.2. This parameter shall be included when MSC-A supports multiple bearers and access network protocol is BSSAP and the RAB ID has a value other than 1.

BSSMAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. If the parameter BSSMAP Service Handover List is sent, the parameter BSSMAP Service Handover shall not be sent.

BSSMAP Service Handover List

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter BSSMAP Service Handover is sent, the parameter BSSMAP Service Handover List shall not be sent.

RANAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is BSSAP.

ASCI Call Reference

This parameter contains either the broadcast call reference or group call reference. It shall be included if a subscriber is undergoing Signalling Only handover during a VGCS or VBS call where MSC-B already has a Bearer established, so that MSC-B can determine the Group or Broadcast Call to which it shall attach the subscriber, see 3GPP TS 48.008 [49].

Handover Number

For definition of this parameter see clause 7.6.2. This parameter shall be returned at handover, unless the parameter HO-NumberNotRequired is sent. If the parameter Handover Number is returned, the parameter Relocation Number List shall not be returned.

Relocation Number List

For definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation, unless the parameter HO-NumberNotRequired is sent. If the parameter Relocation Number List is returned, the parameter Handover Number shall not be returned.

Multicall Bearer Information

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation in the case that MSC-B supports multiple bearers.

Multiple Bearer Requested

For a definition of this parameter see clause 7.6.2. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B.

Multiple Bearer Not Supported

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation when MSC-B receives Multiple Bearer Requested parameter and MSC-B does not support multiple bearers.

Selected UMTS Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes the UMTS integrity and optionally encryption algorithms selected by RNC under the control of MSC-B. This UMTS parameter shall be included if the service is a part of the inter MSC inter system handover from GSM to UMTS.

Chosen Radio Resource Information

For definition of this parameter see clause 7.6.6. This parameter shall be returned at relocation if the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access.

User error

For definition of this parameter see clause 7.6.1. The following errors defined in clause 7.6.1 may be used, depending on the nature of the fault:

- No handover number available.
- Target cell outside group call area;
- System failure.
- Unexpected data value.
- Data Missing.

Provider error

See definition of provider errors in clause 7.6.1.

***** Next Changed Section *****

17.7.1 Mobile Service data types

***** Text removed for clarity *****

```
PrepareHO-Arg ::= [3] SEQUENCE {
    targetCellId
                                           [0] GlobalCellId
                                                                               OPTIONAL,
     ho-NumberNotRequired
                                           NULL
                                                                               OPTIONAL,
     targetRNCId
                                           [1] RNCId
                                                                               OPTIONAL,
     an-APDU
                                           [2] AccessNetworkSignalInfo
                                                                               OPTIONAL,
     {\tt multipleBearerRequested}
                                           [3] NULL
                                                                               OPTIONAL,
     imsi
                                           [4] IMSI
                                                                               OPTIONAL,
     integrityProtectionInfo
                                           [5] IntegrityProtectionInformation OPTIONAL,
                                           [6] EncryptionInformation
     {\tt encryptionInfo}
                                                                                OPTIONAL,
                                          [7] RadioResourceInformation
     radioResourceInformation
                                                                             OPTIONAL,
                                          [9] AllowedGSM-Algorithms
[10] AllowedUMTS-Algorithms
     allowedGSM-Algorithms
                                                                              OPTIONAL,
                                                                             OPTIONAL,
     allowedUMTS-Algorithms
                                           [11] RadioResourceList
     radioResourceList
                                                                              OPTIONAL,
                                           [8] ExtensionContainer
     extensionContainer
                                                                               OPTIONAL,
     rab-Id
                                                                               OPTIONAL,
     bssmap-ServiceHandover
                                           [13] BSSMAP-ServiceHandover
                                                                              OPTIONAL,
                                           [14] RANAP-ServiceHandover
                                                                               OPTIONAL.
     ranap-ServiceHandover
     bssmap-ServiceHandoverList
                                           [15] BSSMAP-ServiceHandoverList
                                                                               OPTIONAL,
     asciCallReference
                                           [20] ASCI<del>sci</del>-CallReference
                                                                               OPTIONAL
```

CHANGE REQUEST							
ж <mark>29</mark>	9.002 CR 539						
For <u>HELP</u> on using	this form, see bottom of this page or look at the pop-up text over the % symbols.						
Proposed change affec	cts: UICC apps第 ME Radio Access Network Core Network X						
Title:	andover of Group Calls where MSC-B has bearer established						
Source: # Cl	N4						
Work item code: 第 TE	El Date: 第 14/1/2003						
Det	Release: Rel-4 e 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) P (editorial modification) Release 1999) Railed explanations of the above categories can found in 3GPP TR 21.900. When performing handover in Voice Group Call Service (VGCS) or Voice Broadcast Service (VBS) it may be the case that MSC-B already has a bearer path for that VB Call or VGCS Call established – there may be a subscriber (or talker in VGCS nomenclature) already attached to MSC-B. Therefore, the handover that takes place is what is referred to as 'Signalling-Only'. In VGCS and VBS, the Group Call Reference identifies participants of a common Group Call. In Signalling Only handover, Group Call Reference is currently not forwarded to MSC-B in any of the signalling messages. Therefore, when MSC-B takes over the talker, it has no way of determining at the MAP level, which Group Call the talker should be attached to. The subscriber would be dropped from the VGCS or VBS Call. This is a serious and frequent misoperation and so the proposed change is an essential correction.						
Summary of change: #							
Consequences if # not approved:	Talkers that undergo Signalling-Only handover in VBS or VGCS calls cannot be re-attached to the correct call at MSC-B						
Clauses affected: #	§ 8.4.1, 17.7.1						
Other specs # affected:	X Test specifications O&M Specifications						
Other comments: #	$f{c}$						

How to create CRs using this form:

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8.4.1 MAP PREPARE HANDOVER service

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This service is used between MSC-A and MSC-B (E-interface) when a call is to be handed over or relocated from MSC-A to MSC-B.

The MAP_PREPARE_HANDOVER service is a confirmed service using the primitives from table 8.4/1.

8.4.1.2 Service primitives

Table 8.4/1: MAP_PREPARE_HANDOVER

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IMSI	С	C(=)		
Integrity Protection Information	С	C(=)		
Encryption Information	С	C(=)		
Radio Resource Information	С	C(=)		
AN-APDU	С	C(=)	С	C(=)
Allowed GSM Algorithms	С	C(=)		
Allowed UMTS Algorithms	С	C(=)		
Radio Resource List	С	C(=)		
RAB ID	С	C(=)		
BSSMAP Service Handover	С	C(=)		
BSSMAP Service Handover	С	C(=)		
List				
RANAP Service Handover	С	C(=)		
ASCI Call Reference	<u>C</u>	<u>C(=)</u>		
Handover Number			С	C(=)
Relocation Number List			С	C(=)
Multicall Bearer Information			С	C(=)
Multiple Bearer Requested	С	C(=)		
Multiple Bearer Not Supported			С	C(=)
Selected UMTS Algorithms			С	C(=)
Chosen Radio Resource			С	C(=)
Information				
User error			С	C(=)
Provider error				0

8.4.1.3 Parameter use

Invoke Id

For definition of this parameter see clause 7.6.1.

Target Cell Id

For definition of this parameter see clause 7.6.2. This parameter is only included if the service is not in an ongoing transaction. This parameter shall also be excluded if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

Target RNC Id

For definition of this parameter see clause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

HO-Number Not Required

For definition of this parameter see clause 7.6.6.

IMSI

For definition of this parameter see clause 7.6.2. This UMTS parameter shall be included if:

- it is available and
- if the access network protocol is BSSAP and
- there is an indication that the MS also supports UMTS.

Integrity Protection Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Encryption Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Radio Resource Information

For definition of this parameter see clause 7.6.6. This GSM parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. If the parameter Radio Resource List is sent , the parameter Radio Resource Information shall not be sent.

AN-APDU

For definition of this parameter see clause 7.6.9.

Allowed GSM Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes allowed GSM algorithms. This GSM parameter shall be included if:

- the service is a part of the Inter-MSC SRNS Relocation procedure and
- Ciphering or Security Mode Setting procedure has been performed.and
- there is an indication that the UE also supports GSM.

Allowed UMTS Algorithms

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if all of the following conditions apply:

- access network protocol is BSSAP and
- Integrity Protection Information and Encryption Information are not available and
- Ciphering or Security Mode Setting procedure has been performed.

Radio Resource List

For definition of this parameter see clause 7.6.6. This parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter Radio Resource Information is sent , the parameter Radio Resource List shall not be sent.

RAB ID

For definition of this parameter see subclause 7.6.2. This parameter shall be included when MSC-A supports multiple bearers and access network protocol is BSSAP and the RAB ID has a value other than 1.

BSSMAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. If the parameter BSSMAP Service Handover List is sent, the parameter BSSMAP Service Handover shall not be sent.

BSSMAP Service Handover List

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter BSSMAP Service Handover is sent, the parameter BSSMAP Service Handover List shall not be sent.

RANAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is BSSAP.

ASCI Call Reference

This parameter contains either the broadcast call reference or group call reference. It shall be included if a subscriber is undergoing Signalling Only handover during a VGCS or VBS call, where MSC-B already has a Bearer established, so that MSC-B can determine the Group or Broadcast Call to which it shall attach the subscriber, see 3GPP TS 48.008 [49](see [100] and [101]).

Handover Number

For definition of this parameter see clause 7.6.2. This parameter shall be returned at handover, unless the parameter HO-NumberNotRequired is sent. If the parameter Handover Number is returned, the parameter Relocation Number List shall not be returned.

Relocation Number List

For definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation, unless the parameter HO-NumberNotRequired is sent. If the parameter Relocation Number List is returned, the parameter Handover Number shall not be returned.

Multicall Bearer Information

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation in the case that MSC-B supports multiple bearers.

Multiple Bearer Requested

For a definition of this parameter see clause 7.6.2. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B.

Multiple Bearer Not Supported

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation when MSC-B receives Multiple Bearer Requested parameter and MSC-B does not support multiple bearers.

Selected UMTS Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes the UMTS integrity and optionally encryption algorithms selected by RNC under the control of MSC-B. This UMTS parameter shall be included if the service is a part of the inter MSC inter system handover from GSM to UMTS.

Chosen Radio Resource Information

For definition of this parameter see clause 7.6.6. This parameter shall be returned at relocation if the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access.

User error

For definition of this parameter see clause 7.6.1. The following errors defined in clause 7.6.1 may be used, depending on the nature of the fault:

- No handover number available.
- Target cell outside group call area;
- System failure.
- Unexpected data value.
- Data Missing.

Provider error

See definition of provider errors in clause 7.6.1.

***** Next Changed Section *****

17.7.1 Mobile Service data types

***** Text removed for clarity *****

```
PrepareHO-Arg ::= [3] SEQUENCE {
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                                            [0] GlobalCellId
                                                                                 OPTIONAL,
     ho-NumberNotRequired
                                            NULL
                                                                                 OPTIONAL,
     targetRNCId
                                            [1] RNCId
                                                                                 OPTIONAL,
     an-APDU
                                            [2] AccessNetworkSignalInfo
                                                                                 OPTIONAL,
     {\tt multipleBearerRequested}
                                            [3] NULL
                                                                                 OPTIONAL,
     imsi
                                            [4] IMSI
                                                                                OPTIONAL,
     integrityProtectionInfo
                                            [5] IntegrityProtectionInformation OPTIONAL,
                                            [6] EncryptionInformation
     {\tt encryptionInfo}
                                           [6] EncryptionInformation[7] RadioResourceInformation
                                                                                  OPTIONAL,
     radioResourceInformation
                                                                               OPTIONAL,
                                           [9] AllowedGSM-Algorithms
[10] AllowedUMTS-Algorithms
     allowedGSM-Algorithms
                                                                                OPTIONAL,
                                                                              OPTIONAL,
     allowedUMTS-Algorithms
                                            [11] RadioResourceList
     radioResourceList
                                                                                OPTIONAL,
                                            [8] ExtensionContainer
     extensionContainer
                                                                                OPTIONAL,
     rab-Id
                                                                                 OPTIONAL,
     bssmap-ServiceHandover
                                            [13] BSSMAP-ServiceHandover
                                                                                OPTIONAL,
     ranap-ServiceHandover
                                            [14] RANAP-ServiceHandover
                                                                                 OPTIONAL.
     bssmap-ServiceHandoverList
                                            [15] BSSMAP-ServiceHandoverList
                                                                                 OPTIONAL,
     asciCallReference
                                            [20] ASCI<del>sci</del>-CallReference
                                                                                 OPTIONAL
```

		C	HANG	E REC	UE	ST				CR-Form-v7
*	29.0	02 CR	540	жrev	2	₩ C	urrent vers	sion:	5.4.0	ж
For <u>HELP</u> on u	sing this	s form, see	bottom of th	nis page oi	look a	at the p	op-up text	over	the ℋ syr	mbols.
Proposed change	affects:	UICC a	ops#	ME	Radi	io Acce	ess Netwo	rk	Core Ne	etwork X
Title: ∺	Hand	over of Gro	up Calls who	ere MSC-E	3 has b	earer	establishe	d		
Source: #	CN4									
Work item code: ₩	TEI						Date: ♯	14/	1/2003	
Reason for change	FABCCDD Detailed be foun	(correction) (correspond (addition of (functional r (editorial mod d explanation d in 3GPP I	modification of odification) as of the above	ion in an ea f feature) ve categorie	es can ce Gro	lease)		the fol (GSM (Relea (Relea (Relea (Relea (Relea (Relea	llowing rele I Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5) ase 6)	e
	ti h li C fi ti	alker in VG nandover the n VGCS are Group Call. orwarded to akes over to Call the talk /GCS or VI	CS nomeno at takes placed VBS, the Consideration of	lature) alrece is what Group Cal g Only has any of the has no wa e attached s is a serie	eady at is reference of the second se	rred to rence io , Group ing me termini ne subs	d to MSC-E as 'Signal dentifies pa p Call Refe essages. T ing at the N scriber wou	B. The ling-Carticip erence heref MAP leads to be	erefore, the Donly'. ants of a set is currer ore, where evel, which dropped	common ntly not n MSC-B ch Group from the
Summary of chang			all reference idover mess			set to G	Group call i	refere	nce) to th	he
Consequences if not approved:			undergo Sig to the correc			ndover	in VBS or	VGC	S calls ca	nnot be
Clauses affected:	₩ 8	3.4.1, 17.7.°	1							
Other specs affected:	# Y	X Test s	core specificpecifications	3	ж					
Other comments:	\mathfrak{H}									

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8.4.1 MAP_PREPARE_HANDOVER service

8.4.1.1 Definition

This service is used between MSC-A and MSC-B (E-interface) when a call is to be handed over or relocated from MSC-A to MSC-B.

The MAP_PREPARE_HANDOVER service is a confirmed service using the primitives from table 8.4/1.

8.4.1.2 Service primitives

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Encryption Information	С	C(=)		
Radio Resource Information	С	C(=)		
AN-APDU	С	C(=)	С	C(=)
Allowed GSM Algorithms	С	C(=)		
Allowed UMTS Algorithms	С	C(=)		
Radio Resource List	С	C(=)		
RAB ID	С	C(=)		
GERAN Classmark	С	C(=)		
BSSMAP Service Handover	С	C(=)		
BSSMAP Service Handover	С	C(=)		
List		. ,		
RANAP Service Handover	С	C(=)		
Currently Used Codec	С	C(=)		
Available Codecs List	С	C(=)		
RAB Configuration Indicator	С	C(=)		
ASCI Call Reference	<u>C</u>	<u>C(=)</u>		
Handover Number			С	C(=)
Relocation Number List			С	C(=)
Multicall Bearer Information			С	C(=)
Multiple Bearer Requested	С	C(=)		
Multiple Bearer Not Supported			С	C(=)
Selected UMTS Algorithms			С	C(=)
Chosen Radio Resource			С	C(=)
Information				
Selected Codec			С	C(=)
User error			С	C(=)
Provider error				0

8.4.1.3 Parameter use

Invoke Id

For definition of this parameter see clause 7.6.1.

Target Cell Id

For definition of this parameter see clause 7.6.2. This parameter is only included if the service is not in an ongoing transaction. This parameter shall also be excluded if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

Target RNC Id

For definition of this parameter see clause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

HO-Number Not Required

For definition of this parameter see clause 7.6.6.

IMSI

For definition of this parameter see clause 7.6.2. This UMTS parameter shall be included if:

- available and
- if the access network protocol is BSSAP and
- there is an indication that the MS also supports UMTS.

Integrity Protection Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Encryption Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Radio Resource Information

For definition of this parameter see clause 7.6.6. This GSM parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. If the parameter Radio Resource List is sent , the parameter Radio Resource Information shall not be sent.

AN-APDU

For definition of this parameter see clause 7.6.9.

Allowed GSM Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes allowed GSM algorithms. This GSM parameter shall be included if:

- the service is a part of the Inter-MSC SRNS Relocation procedure and
- Ciphering or Security Mode Setting procedure has been performed.and
- there is an indication that the UE also supports GSM.

Allowed UMTS Algorithms

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if all of the following conditions apply:

- access network protocol is BSSAP and
- Integrity Protection Information and Encryption Information are not available and

Ciphering or Security Mode Setting procedure has been performed.

Radio Resource List

For definition of this parameter see clause 7.6.6. This parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter Radio Resource Information is sent , the parameter Radio Resource List shall not be sent.

RAB ID

For definition of this parameter see subclause 7.6.2. This parameter shall be included when MSC-A supports multiple bearers and access network protocol is BSSAP and the RAB ID has a value other than 1.

GERAN Classmark

For definition of this parameter see subclause 7.6.6 This parameter shall be included if available.

BSSMAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. If the parameter BSSMAP Service Handover List is sent, the parameter BSSMAP Service Handover shall not be sent.

BSSMAP Service Handover List

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter BSSMAP Service Handover is sent, the parameter BSSMAP Service Handover List shall not be sent.

RANAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is BSSAP.

Currently Used Codec

For definition of this parameter see subclause 7.6.6. This parameter shall be included if the call is a speech call. This parameter shall not be included if Available Codecs List is not included.

Available Codecs List

For definition of this parameter see subclause 7.6.6. This parameter shall be included if the call is a speech call.

RAB Configuration Indicator

For definition of this parameter see subclause 7.6.6. This parameter may be included if the call is a speech call and MSC-A knows by means of configuration information that MSC-B supports the use of Available Codecs List parameter. This parameter shall not be included if Available Codecs List is not included.

ASCI Call Reference

This parameter contains either the broadcast call reference or group call reference. It shall be included if a subscriber is undergoing Signalling Only handover during a VGCS or VBS call, where MSC-B already has a Bearer established, so that MSC-B can determine the Group or Broadcast Call to which it shall attach the subscriber, see 3GPP TS 48.008 [49](see [100] and [101]).

Handover Number

For definition of this parameter see clause 7.6.2. This parameter shall be returned at handover, unless the parameter HO-NumberNotRequired is sent. If the parameter Handover Number is returned, the parameter Relocation Number List shall not be returned.

Relocation Number List

For definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation, unless the parameter HO-NumberNotRequired is sent. If the parameter Relocation Number List is returned, the parameter Handover Number shall not be returned.

Multicall Bearer Information

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation in the case that MSC-B supports multiple bearers.

Multiple Bearer Requested

For a definition of this parameter see clause 7.6.2. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B.

Multiple Bearer Not Supported

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation when MSC-B receives Multiple Bearer Requested parameter and MSC-B does not support multiple bearers.

Selected UMTS Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes the UMTS integrity and optionally encryption algorithms selected by RNC under the control of MSC-B. This UMTS parameter shall be included if the service is a part of the inter MSC inter system handover from GSM to UMTS.

Chosen Radio Resource Information

For definition of this parameter see clause 7.6.6. This parameter shall be returned at relocation if the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access.

Selected Codec

For definition of this parameter see subclause 7.6.6. This parameter shall be included always if MSC-B supports the selection of codec based on Available Codecs List, even if Selected Codec is equal to the Currently Used Codec received in the service request. This parameter shall not be included if Available Codecs List was not received in the service request.

User error

For definition of this parameter see clause 7.6.1. The following errors defined in clause 7.6.1 may be used, depending on the nature of the fault:

- No handover number available.
- Target cell outside group call area;
- System failure.
- Unexpected data value.
- Data Missing.

Provider error

See definition of provider errors in clause 7.6.1.

***** Next Changed Section *****

17.7.1 Mobile Service data types

***** Text removed for clarity *****

PrepareHO-Arg ::= [3] SEQUENCE {		
targetCellId	[0] GlobalCellId	OPTIONAL,
ho-NumberNotRequired	NULL NULL	OPTIONAL,
targetRNCId	[1] RNCId	OPTIONAL,
an-APDIJ	[2] AccessNetworkSignalInfo	OPTIONAL,
	[3] NULL	OPTIONAL,
multipleBearerRequested		- · ·
imsi	[4] IMSI	OPTIONAL,
integrityProtectionInfo	[5] IntegrityProtectionInformation	
encryptionInfo	[6] EncryptionInformation	OPTIONAL,
radioResourceInformation	[7] RadioResourceInformation	OPTIONAL,
allowedGSM-Algorithms	<pre>[9] AllowedGSM-Algorithms</pre>	OPTIONAL,
allowedUMTS-Algorithms	<pre>[10] AllowedUMTS-Algorithms</pre>	OPTIONAL,
radioResourceList	[11] RadioResourceList	OPTIONAL,
extensionContainer	[8] ExtensionContainer	OPTIONAL,
,	[10] DED T-1	ODET ONLY
rab-Id	[12] RAB-Id	OPTIONAL,
bssmap-ServiceHandover	[13] BSSMAP-ServiceHandover	OPTIONAL,
ranap-ServiceHandover	[14] RANAP-ServiceHandover	OPTIONAL,
bssmap-ServiceHandoverList	[15] BSSMAP-ServiceHandoverList	OPTIONAL <u>,</u>
asciCallReference	[20] ASCI-CallReference	OPTIONAL,
geran-classmark	[16] GERAN-Classmark	OPTIONAL,
currentlyUsedCodec	[17] Codec	OPTIONAL,
availableCodecsList	[18] AvailableCodecsList	OPTIONAL,
rab-ConfigurationIndicator	[19] NULL	OPTIONAL,
	[20] Asci CallReference	OPTIONAL }

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Proposed change	affects:	UICC a	pps#	ME	Radi	o Acce	ess Netwo	rk	Core Ne	etwork X
Title:	Hand	over of Gro	up Calls wh	ere MSC-E	3 has b	earer e	establishe	d		
Source: #	CN4									
Work item code: ₩	TEI						<i>Date:</i> ♯	14/1	1/2003	
Reason for change	F A B C D Detailed be foun	(correction) (correspond (addition of (functional in dexplanation d in 3GPP] When perfo	modification o odification) ns of the above R 21.900. rming hando Service (VBS	f feature) ye categorie over in Voi it may be	es can ce Gro e the ca	ease) up Call ase tha	at MSC-B	the fol (GSM (Relea (Relea (Relea (Relea (Relea VGCS	lowing rele I Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5) ase 6)	e earer
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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:

- 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.

8.4.1 MAP_PREPARE_HANDOVER service

8.4.1.1 Definition

This service is used between MSC-A and MSC-B (E-interface) when a call is to be handed over or relocated from MSC-A to MSC-B.

The MAP_PREPARE_HANDOVER service is a confirmed service using the primitives from table 8.4/1.

8.4.1.2 Service primitives

Table 8.4/1: MAP_PREPARE_HANDOVER

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
Target Cell Id	С	C(=)		
Target RNC Id	С	C(=)		
HO-NumberNotRequired	С	C(=)		
IMSI	С	C(=)		
Integrity Protection Information	С	C(=)		
Encryption Information	С	C(=)		
Radio Resource Information	С	C(=)		
AN-APDU	С	C(=)	С	C(=)
Allowed GSM Algorithms	С	C(=)		
Allowed UMTS Algorithms	С	C(=)		
Radio Resource List	С	C(=)		
RAB ID	С	C(=)		
GERAN Classmark	С	C(=)		
BSSMAP Service Handover	С	C(=)		
BSSMAP Service Handover	С	C(=)		
List		. ,		
RANAP Service Handover	С	C(=)		
Currently Used Codec	С	C(=)		
Available Codecs List	С	C(=)		
RAB Configuration Indicator	С	C(=)		
ASCI Call Reference	<u>C</u>	<u>C(=)</u>		
Handover Number			С	C(=)
Relocation Number List			С	C(=)
Multicall Bearer Information			С	C(=)
Multiple Bearer Requested	С	C(=)		
Multiple Bearer Not Supported			С	C(=)
Selected UMTS Algorithms			С	C(=)
Chosen Radio Resource			С	C(=)
Information				
Selected Codec			С	C(=)
User error			С	C(=)
Provider error				0

8.4.1.3 Parameter use

Invoke Id

For definition of this parameter see clause 7.6.1.

Target Cell Id

For definition of this parameter see clause 7.6.2. This parameter is only included if the service is not in an ongoing transaction. This parameter shall also be excluded if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

Target RNC Id

For definition of this parameter see clause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure or the inter-system handover GSM to UMTS procedure described in 3GPP TS 23.009.

HO-Number Not Required

For definition of this parameter see clause 7.6.6.

IMSI

For definition of this parameter see clause 7.6.2. This UMTS parameter shall be included if:

- available and
- if the access network protocol is BSSAP and
- there is an indication that the MS also supports UMTS.

Integrity Protection Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Encryption Information

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if available and if the access network protocol is BSSAP.

Radio Resource Information

For definition of this parameter see clause 7.6.6. This GSM parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. If the parameter Radio Resource List is sent , the parameter Radio Resource Information shall not be sent.

AN-APDU

For definition of this parameter see clause 7.6.9.

Allowed GSM Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes allowed GSM algorithms. This GSM parameter shall be included if:

- the service is a part of the Inter-MSC SRNS Relocation procedure and
- Ciphering or Security Mode Setting procedure has been performed.and
- there is an indication that the UE also supports GSM.

Allowed UMTS Algorithms

For definition of this parameter see clause 7.6.6. This UMTS parameter shall be included if all of the following conditions apply:

- access network protocol is BSSAP and
- Integrity Protection Information and Encryption Information are not available and

Ciphering or Security Mode Setting procedure has been performed.

Radio Resource List

For definition of this parameter see clause 7.6.6. This parameter shall be included if the access network protocol is RANAP and there is an indication that the UE also supports GSM. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter Radio Resource Information is sent , the parameter Radio Resource List shall not be sent.

RAB ID

For definition of this parameter see subclause 7.6.2. This parameter shall be included when MSC-A supports multiple bearers and access network protocol is BSSAP and the RAB ID has a value other than 1.

GERAN Classmark

For definition of this parameter see subclause 7.6.6 This parameter shall be included if available.

BSSMAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. If the parameter BSSMAP Service Handover List is sent, the parameter BSSMAP Service Handover shall not be sent.

BSSMAP Service Handover List

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is RANAP. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B. If the parameter BSSMAP Service Handover is sent, the parameter BSSMAP Service Handover List shall not be sent.

RANAP Service Handover

For definition of this parameter see clause 7.6.6. It shall be present if it is available and the access network protocol is BSSAP.

Currently Used Codec

For definition of this parameter see subclause 7.6.6. This parameter shall be included if the call is a speech call. This parameter shall not be included if Available Codecs List is not included.

Available Codecs List

For definition of this parameter see subclause 7.6.6. This parameter shall be included if the call is a speech call.

RAB Configuration Indicator

For definition of this parameter see subclause 7.6.6. This parameter may be included if the call is a speech call and MSC-A knows by means of configuration information that MSC-B supports the use of Available Codecs List parameter. This parameter shall not be included if Available Codecs List is not included.

ASCI Call Reference

This parameter contains either the broadcast call reference or group call reference. It shall be included if a subscriber is undergoing Signalling Only handover during a VGCS or VBS call, where MSC-B already has a Bearer established, so that MSC-B can determine the Group or Broadcast Call to which it shall attach the subscriber, see 3GPP TS 48.008 [49](see [100] and [101]).

Handover Number

For definition of this parameter see clause 7.6.2. This parameter shall be returned at handover, unless the parameter HO-NumberNotRequired is sent. If the parameter Handover Number is returned, the parameter Relocation Number List shall not be returned.

Relocation Number List

For definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation, unless the parameter HO-NumberNotRequired is sent. If the parameter Relocation Number List is returned, the parameter Handover Number shall not be returned.

Multicall Bearer Information

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation in the case that MSC-B supports multiple bearers.

Multiple Bearer Requested

For a definition of this parameter see clause 7.6.2. This parameter shall be sent when MSC-A requests multiple bearers to MSC-B.

Multiple Bearer Not Supported

For a definition of this parameter see clause 7.6.2. This parameter shall be returned at relocation when MSC-B receives Multiple Bearer Requested parameter and MSC-B does not support multiple bearers.

Selected UMTS Algorithms

For definition of this parameter see clause 7.6.6. This parameters includes the UMTS integrity and optionally encryption algorithms selected by RNC under the control of MSC-B. This UMTS parameter shall be included if the service is a part of the inter MSC inter system handover from GSM to UMTS.

Chosen Radio Resource Information

For definition of this parameter see clause 7.6.6. This parameter shall be returned at relocation if the encapsulated PDU is RANAP RAB Assignment Response and MS is in GSM access.

Selected Codec

For definition of this parameter see subclause 7.6.6. This parameter shall be included always if MSC-B supports the selection of codec based on Available Codecs List, even if Selected Codec is equal to the Currently Used Codec received in the service request. This parameter shall not be included if Available Codecs List was not received in the service request.

User error

For definition of this parameter see clause 7.6.1. The following errors defined in clause 7.6.1 may be used, depending on the nature of the fault:

- No handover number available.
- Target cell outside group call area;
- System failure.
- Unexpected data value.
- Data Missing.

Provider error

See definition of provider errors in clause 7.6.1.

***** Next Changed Section *****

17.7.1 Mobile Service data types

***** Text removed for clarity *****

PrepareHO-Arg ::= [3] SEQUENCE {		
targetCellId	[0] GlobalCellId	OPTIONAL,
ho-NumberNotRequired	NULL	OPTIONAL,
-	[1] RNCId	- '
targetRNCId		OPTIONAL,
an-APDU	[2] AccessNetworkSignalInfo	OPTIONAL,
multipleBearerRequested	[3] NULL	OPTIONAL,
imsi	[4] IMSI	OPTIONAL,
integrityProtectionInfo	[5] IntegrityProtectionInformation	on OPTIONAL,
encryptionInfo	<pre>[6] EncryptionInformation</pre>	OPTIONAL,
radioResourceInformation	[7] RadioResourceInformation	OPTIONAL,
allowedGSM-Algorithms	[9] AllowedGSM-Algorithms	OPTIONAL,
allowedUMTS-Algorithms	[10] AllowedUMTS-Algorithms	OPTIONAL,
radioResourceList	[11] RadioResourceList	OPTIONAL,
extensionContainer	[8] ExtensionContainer	OPTIONAL,
••• /	[40]1	
rab-Id	[12] RAB-Id	OPTIONAL,
bssmap-ServiceHandover	[13] BSSMAP-ServiceHandover	OPTIONAL,
ranap-ServiceHandover	[14] RANAP-ServiceHandover	OPTIONAL,
bssmap-ServiceHandoverList	<pre>[15] BSSMAP-ServiceHandoverList</pre>	OPTIONAL <u>,</u>
asciCallReference	[20] ASCI-CallReference	OPTIONAL_,
geran-classmark	[16] GERAN-Classmark	OPTIONAL,
currentlyUsedCodec	[17] Codec	OPTIONAL,
availableCodecsList	[18] AvailableCodecsList	OPTIONAL,
rab-ConfigurationIndicator	[19] NULL	OPTIONAL _T
asciCallReference	[20] Asci CallReference	OPTIONAL }