

**3GPP TSG CN Plenary  
Meeting #11, Palm Springs, U.S.A  
14<sup>th</sup> - 16<sup>th</sup> March 2001**

**Tdoc NP-010077**

**Source:** TSG CN WG4  
**Title:** CRs to R99 on Work Item Multicall  
**Agenda item:** 7.19  
**Document for:** APPROVAL

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**Introduction:**

This document contains 4 CRs on R99 Work Item "Multicall", that have been agreed by TSG CN WG4, and are forwarded to TSG CN Plenary meeting #11 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	216		N4-010032	R99	Correction to maximum numbers of RAB's	F	3.7.2
29.002	217		N4-010033	Rel-4	Correction to maximum numbers of RAB's	A	4.2.1
29.002	251		N4-010392	R99	Clarification of the use of multicall bearer information	F	3.7.2
29.002	252		N4-010393	Rel-4	Clarification of the use of multicall bearer information	A	4.2.1

## CHANGE REQUEST

⌘ **29.002 CR** **216** ⌘ rev  ⌘ Current version: **3.7.2** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘	Correction to maximum numbers of RAB's	
<b>Source:</b>	⌘	CN4	
<b>Work item code:</b>	⌘	Multicall	<b>Date:</b> ⌘ 4.1.2001
<b>Category:</b>	⌘	<b>F</b> (Agreed by consensus)	<b>Release:</b> ⌘ R99
		<p><i>Use <u>one</u> of the following categories:</i></p> <p><b>F</b> (essential correction)</p> <p><b>A</b> (corresponds to a correction in an earlier release)</p> <p><b>B</b> (Addition of feature),</p> <p><b>C</b> (Functional modification of feature)</p> <p><b>D</b> (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use <u>one</u> of the following releases:</i></p> <p><b>2</b> (GSM Phase 2)</p> <p><b>R96</b> (Release 1996)</p> <p><b>R97</b> (Release 1997)</p> <p><b>R98</b> (Release 1998)</p> <p><b>R99</b> (Release 1999)</p> <p><b>REL-4</b> (Release 4)</p> <p><b>REL-5</b> (Release 5)</p>

<b>Reason for change:</b>	⌘	RAB-id is specified in 25.413 and there the size is BIT STRING (SIZE (8)). That means that the maximum number of RAB-id's is 255. This alligns 29.002 and 25.413	
<b>Summary of change:</b>	⌘		
<b>Consequences if not approved:</b>	⌘		

<b>Clauses affected:</b>	⌘	17.7	
<b>Other specs affected:</b>	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘
<b>Other comments:</b>	⌘		

```

PrepareSubsequentHO-Arg ::= [3] SEQUENCE {
    targetCellId           [0] GlobalCellId,
    targetMSC-Number       [1] ISDN-AddressString,
    targetRNCId           [2] RNCId                OPTIONAL,
    an-APDU                [3] AccessNetworkSignalInfo OPTIONAL,
    selectedRab-Id        [4] RAB-Id                OPTIONAL,
    extensionContainer     [5] ExtensionContainer    OPTIONAL,
    ...}

```

```

PrepareSubsequentHO-Res ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer    OPTIONAL,
    ...}

```

```

ProcessAccessSignalling-Arg ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer    OPTIONAL,
    ...}

```

```

SendEndSignal-Arg ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer    OPTIONAL,
    ...}

```

```

SendEndSignal-Res ::= SEQUENCE {
    extensionContainer     [0] ExtensionContainer    OPTIONAL,
    ...}

```

```

RNCId ::= OCTET STRING (SIZE (5))
-- Refers to the Target RNC-ID in the Target ID in 3G TS 25.413.
-- The internal structure is defined as follows:
-- octet 1 bits 4321      Mobile Country Code 1st digit
--          bits 8765      Mobile Country Code 2nd digit
-- octet 2 bits 4321      Mobile Country Code 3rd digit
--          bits 8765      Mobile Network Code 3rd digit
--                               or filler (1111) for 2nd digit MNCs
-- octet 3 bits 4321      Mobile Network Code 1st digit
--          bits 8765      Mobile Network Code 2nd digit
-- octets 4 and 5        RNC ID

```

```

RelocationNumberList ::= SEQUENCE SIZE (1..maxNumOfRelocationNumber) OF
    RelocationNumber

```

```

MulticallBearerInfo ::= INTEGER (1..maxNumOfRelocationNumber)

```

```

RelocationNumber ::= SEQUENCE {
    handoverNumber        ISDN-AddressString,
    rab-Id                RAB-Id,
    -- RAB Identity is needed to relate the calls with the radio access bearers.
    ...}

```

```

RAB-Id ::= INTEGER (1..maxNrOfRABs)

```

```

maxNrOfRABs INTEGER ::= 2556

```

## CHANGE REQUEST

⌘ **29.002 CR** **217** ⌘ rev  ⌘ Current version: **4.2.1** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘	Correction to maximum numbers of RAB's		
<b>Source:</b>	⌘	CN4		
<b>Work item code:</b>	⌘	Multicall	<b>Date:</b>	⌘ 4.1.2001
<b>Category:</b>	⌘	A	<b>Release:</b>	⌘ REL-4
		<i>Use <u>one</u> of the following categories:</i> <b>F</b> (essential 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 TR 21.900.		<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)

<b>Reason for change:</b>	⌘	RAB-id is specified in 25.413 and there the size is BIT STRING (SIZE (8)). That means that the maximum number of RAB-id's is 255. This alligns 29.002 and 25.413		
<b>Summary of change:</b>	⌘			
<b>Consequences if not approved:</b>	⌘			

<b>Clauses affected:</b>	⌘	17.7		
<b>Other specs affected:</b>	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
<b>Other comments:</b>	⌘			

```

PrepareSubsequentHO-Arg ::= [3] SEQUENCE {
    targetCellId           [0] GlobalCellId,
    targetMSC-Number       [1] ISDN-AddressString,
    targetRNCId           [2] RNCId                OPTIONAL,
    an-APDU                [3] AccessNetworkSignalInfo  OPTIONAL,
    selectedRab-Id        [4] RAB-Id                OPTIONAL,
    extensionContainer     [5] ExtensionContainer       OPTIONAL,
    ...}

```

```

PrepareSubsequentHO-Res ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer       OPTIONAL,
    ...}

```

```

ProcessAccessSignalling-Arg ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer       OPTIONAL,
    ...}

```

```

SendEndSignal-Arg ::= [3] SEQUENCE {
    an-APDU                AccessNetworkSignalInfo,
    extensionContainer     [0] ExtensionContainer       OPTIONAL,
    ...}

```

```

SendEndSignal-Res ::= SEQUENCE {
    extensionContainer     [0] ExtensionContainer       OPTIONAL,
    ...}

```

```

RNCId ::= OCTET STRING (SIZE (5))
-- Refers to the Target RNC-ID in the Target ID in 3G TS 25.413.
-- The internal structure is defined as follows:
-- octet 1 bits 4321      Mobile Country Code 1st digit
--          bits 8765      Mobile Country Code 2nd digit
-- octet 2 bits 4321      Mobile Country Code 3rd digit
--          bits 8765      Mobile Network Code 3rd digit
--                               or filler (1111) for 2nd digit MNCs
-- octet 3 bits 4321      Mobile Network Code 1st digit
--          bits 8765      Mobile Network Code 2nd digit
-- octets 4 and 5        RNC ID

```

```

RelocationNumberList ::= SEQUENCE SIZE (1..maxNumOfRelocationNumber) OF
    RelocationNumber

```

```

MulticallBearerInfo ::= INTEGER (1..maxNumOfRelocationNumber)

```

```

RelocationNumber ::= SEQUENCE {
    handoverNumber        ISDN-AddressString,
    rab-Id                RAB-Id,
    -- RAB Identity is needed to relate the calls with the radio access bearers.
    ...}

```

```

RAB-Id ::= INTEGER (1..maxNrOfRABs)

```

```

maxNrOfRABs INTEGER ::= 2556

```

## CHANGE REQUEST

⌘ **29.002 CR** **251** ⌘ rev  ⌘ Current version: **3.7.2** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification of the use of multicall bearer information		
<b>Source:</b>	⌘ CN4		
<b>Work item code:</b>	⌘ Multicall	<b>Date:</b>	⌘ 19.2.2001
<b>Category:</b>	⌘ <b>F</b> (Essential Correction)	<b>Release:</b>	⌘ R99
	<p><i>Use <u>one</u> of the following categories:</i></p> <p><b>F</b> (essential 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)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use <u>one</u> of the following releases:</i></p> <p><b>2</b> (GSM Phase 2)  <b>R96</b> (Release 1996)  <b>R97</b> (Release 1997)  <b>R98</b> (Release 1998)  <b>R99</b> (Release 1999)  <b>REL-4</b> (Release 4)  <b>REL-5</b> (Release 5)</p>	

<b>Reason for change:</b>	⌘ The multicall bearer information is conditional parameter but the conditions for the use are missing.
	The multicall bearer information should be included always by MSC-B when MSC-B supports Multicall. This way MSC-A can know the maximum number of bearers that MSC-B supports in the case MSC-A also supports Multicall.
<b>Summary of change:</b>	⌘
<b>Consequences if not approved:</b>	⌘ Unnecessary establishment of additional bearers can be requested by MSC-A in the case that MSC-A supports Multicall and MSC-B does not support Multicall or number of bearers supported by MSC-A is greater than number of bearers supported by MSC-B.

<b>Clauses affected:</b>	⌘ 8.4
<b>Other specs affected:</b>	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
<b>Other comments:</b>	⌘

## 8.4.1 MAP\_PREPARE\_HANOVER 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\_HANOVER 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\_HANOVER**

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
Target Cell Id	C	C(=)		
Target RNC Id	C	C(=)		
HO-NumberNotRequired	C	C(=)		
IMSI	C	C(=)		
Integrity Protection Information	C	C(=)		
Encryption Information	C	C(=)		
Radio Resource Information	C	C(=)		
AN-APDU	C	C(=)	C	C(=)
Handover Number			C	C(=)
Relocation Number List			C	C(=)
Multicall Bearer Information			C	C(=)
Multiple Bearer Requested	C	C(=)		
Multiple Bearer Not Supported			C	C(=)
User error			C	C(=)
Provider error				O

### 8.4.1.3 Parameter use

#### Invoke Id

For definition of this parameter see subclause 7.6.1.

#### Target Cell Id

For definition of this parameter see subclause 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 3G TS 23.009.

#### Target RNC Id

For definition of this parameter see subclause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure described in 3G TS 23.009.

#### HO-Number Not Required

For definition of this parameter see subclause 7.6.6.

#### IMSI

For definition of this parameter see subclause 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 subclause 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 subclause 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 subclause 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.

### AN-APDU

For definition of this parameter see subclause 7.6.9.

### Handover Number

For definition of this parameter see subclause 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 subclause 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 subclause 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 subclause 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 subclause 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.

### User error

For definition of this parameter see subclause 7.6.1. The following errors defined in subclause 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 subclause 7.6.1.



## CHANGE REQUEST

⌘ **29.002 CR** **252** ⌘ rev  ⌘ Current version: **4.2.1** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘	Clarification of the use of multicall bearer information		
<b>Source:</b>	⌘	CN4		
<b>Work item code:</b>	⌘	Multicall	<b>Date:</b>	⌘ 22.2.2001
<b>Category:</b>	⌘	<b>A</b>	<b>Release:</b>	⌘ REL-4
		<i>Use <u>one</u> of the following categories:</i> <b>F</b> (essential 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)		<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.				

<b>Reason for change:</b>	⌘	The multicall bearer information is conditional parameter but the conditions for the use are missing.  The multicall bearer information should be included always by MSC-B when MSC-B supports Multicall. This way MSC-A can know the maximum number of bearers that MSC-B supports in the case MSC-A also supports Multicall.		
<b>Summary of change:</b>	⌘			
<b>Consequences if not approved:</b>	⌘	Unnecessary establishment of additional bearers can be requested by MSC-A in the case that MSC-A supports Multicall and MSC-B does not support Multicall or number of bearers supported by MSC-A is greater than number of bearers supported by MSC-B.		

<b>Clauses affected:</b>	⌘	8.4		
<b>Other specs affected:</b>	⌘	<input type="checkbox"/> Other core specifications	⌘	
		<input type="checkbox"/> Test specifications		
		<input type="checkbox"/> O&M Specifications		
<b>Other comments:</b>	⌘			

## 8.4.1 MAP\_PREPARE\_HANOVER 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\_HANOVER 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\_HANOVER**

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
Target Cell Id	C	C(=)		
Target RNC Id	C	C(=)		
HO-NumberNotRequired	C	C(=)		
IMSI	C	C(=)		
Integrity Protection Information	C	C(=)		
Encryption Information	C	C(=)		
Radio Resource Information	C	C(=)		
AN-APDU	C	C(=)	C	C(=)
Handover Number			C	C(=)
Relocation Number List			C	C(=)
Multicall Bearer Information			C	C(=)
Multiple Bearer Requested	C	C(=)		
Multiple Bearer Not Supported			C	C(=)
User error			C	C(=)
Provider error				O

### 8.4.1.3 Parameter use

#### Invoke Id

For definition of this parameter see subclause 7.6.1.

#### Target Cell Id

For definition of this parameter see subclause 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 3G TS 23.009.

#### Target RNC Id

For definition of this parameter see subclause 7.6.2. This parameter shall be included if the service is a part of the Inter-MSC SRNS Relocation procedure described in 3G TS 23.009.

#### HO-Number Not Required

For definition of this parameter see subclause 7.6.6.

#### IMSI

For definition of this parameter see subclause 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 subclause 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 subclause 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 subclause 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.

### AN-APDU

For definition of this parameter see subclause 7.6.9.

### Handover Number

For definition of this parameter see subclause 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 subclause 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 subclause 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 subclause 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 subclause 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.

### User error

For definition of this parameter see subclause 7.6.1. The following errors defined in subclause 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 subclause 7.6.1.