3GPP TSG CT Plenary Meeting #27 **Tdoc CP-050181**
Quebec, Canada, 1st – 3rd June 2005

Title: **Reply LS on Full RANAP support of network initiated SCUDIF**
Response to:
Release: **Release 6**

Source: **GERAN2**
To: **CT, CT1, CT4**
Cc: **GERAN**

Contact Person:
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Attachments:
G2-050336, G2-050337

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1. Overall Description:

GERAN2 would like to thank CT4 for their Liaison Statement on Full RANAP support of network initiated SCUDIF.

GERAN2 has reviewed the proposed solutions from CT4, and is pleased to inform that it has decided to include a new BSSAP message, in Release 6, to be used at MAP level over the E interface. The corresponding CRs (Rel-6 and Rel-7 mirror) to 3GPP TS 48.008 were agreed by GERAN2, and are attached to this Liaison Statement for information.

GERAN2 has also identified that a corresponding change is needed to 3GPP TS 49.008 (Use of BSSAP on the E-interface) which is under CT1's responsibility.

2. Actions:

To CT, CT1, CT4

ACTION:

GERAN2 kindly asks CT, CT1 and CT4 to take note of GERAN2 decision to introduce a new BSSAP message for the purpose of network-initiated service change for SCUDIF.

To CT1

ACTION:

GERAN2 kindly asks CT1 to update 3GPP TS 49.008 accordingly.

3. Dates of Next GERAN2 Meetings:

GERAN2#25	21-23 Jun 2005	Montréal
GERAN2#26	30 Aug-01 Sep 2005	Schaumburg
GERAN2#26bis	03-07 Oct 2005	TBD
GERAN2#27	08-10 Nov 2005	TBD

3GPP TSG-GERAN WG2 Meeting #24bis
Quebec, Canada. 23rd - 27th May 2005.

Tdoc ⌘G2-050336

Agenda item: 5.3.3

CR-Form-v7.1

CHANGE REQUEST

⌘ **48.008** **CR** **160** ⌘ **rev** **2** ⌘ Current version: **6.9.0** ⌘

*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:	⌘	Network-initiated SCUDIF on MAP/E-interface in case of BSSAP
Source:	⌘	Nokia
Work item code:	⌘	TEI-6
Date:	⌘	23/05/2005
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In case of network-initiated SCUDIF support in UTRAN it should be possible to send from non-anchor MSC towards anchor MSC over MAP E-interface an indication about conditions for service change becoming suitable. That indication needs to be sent also between MSCs when BSSAP is used over MAP E-interface. In case of RANAP this indication is sent by re-using RAB MODIFY REQUEST message with a new optional IE indicating to the MSC the existence of suitable conditions for a service change. When RANAP is used over the MAP E-interface that message is sent from the non-anchor MSC to the anchor MSC inside AN-APDU. On the MAP E-interface currently the AN-APDU containing an access network protocol message is mandatory. However in BSSAP there does not currently exist an appropriate message that could be used for this indication.
Summary of change:	⌘	A new BSSAP message *Channel Modify Request* and a new Cause value *Alternative Channel Configuration Requested* is defined.
Consequences if not approved:	⌘	The network-initiated SCUDIF procedures in inter-MSC scenarios are not supported.

Clauses affected:	⌘	1.1, 3.2, 3.2.1.75 (new), 3.2.2.1, 3.2.2.5

Other specs affected:	⌘	Y	N		⌘	
		X		Other core specifications		29.002, 29.010, 49.008
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘	

********** FIRST MODIFIED SECTION **********

1.1 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] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.003: "Numbering, addressing and identification".

[3] 3GPP TS 23.009: "Handover procedures".

[3a] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[4] (void)

[5] 3GPP TS 43.059: "Functional stage 2 description of Location Services (LCS) in GERAN".

[6] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[7] (void).

[8] (void).

[9] (void).

[10] (void).

[11] (void).

[12] (void).

[13] (void).

[14] (void).

[15] (void).

[16] 3GPP TS 48.002: "Base Station System - Mobile-services Switching Centre (BSS-MSC) interface; Interface principles".

[17] 3GPP TS 48.006: "Signalling transport mechanism specification for the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18] 3GPP TS 48.020: "Rate adaption on the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18a] (void).

[19] 3GPP TS 48.071: "Location Services (LCS); Serving Mobile Location Center - Base Station System (SMLC-BSS) interface; Layer 3 specification".

[19a] 3GPP TS 49.031: "Location Services (LCS); Base Station System Application Part LCS Extension (BSSAP-LE)".

[20] (void).

[21] (void).

[22] (void).

[23] (void).

[24] (void).

[25] (void).

[26] (void).

[27] (void).

[28] 3GPP TS 52.021: "Network Management (NM) procedures and messages on the A-bis Interface".

[29] (void).

[30] (void).

[31] 3GPP TS 25.413: "UTRAN Iu Interface RANAP signalling".

[32] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".

[33] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[34] (void).

[35] (void).

[36] (void).

[37] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[38] ITU-T Recommendation X.25: "Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".

[39] 3GPP TS 43.020: "Security-related network functions".

[40] 3GPP TS 43.073: "Support of Localised Service Area (SoLSA); Stage 2".

[41] 3GPP TS 52.008: "Telecommunication management; GSM subscriber and equipment trace".

[42] (void).

[43] 3GPP TS 45.002: "Multiplexing and multiple access on the radio path".

[44] 3GPP TS 26.103: "Speech codec list for GSM and UMTS".

[45] 3GPP TS 43.051: "GSM/EDGE Radio Access Network (GERAN) overall description; Stage 2".

[46] 3GPP TS 23.172: " Technical realization of Circuit Switched (CS) multimedia service UDI/RDI fallback and service modification; Stage 2".

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

3.2 Message Formats and Coding

This sub-clause defines the coding and format of the messages required for the BSSMAP.

For each message there is, in sub-clause 3.2.1, a table listing the signalling elements in their order of appearance in the transmitted message.

There is no general rule for the order of signalling elements: it happens that the same elements appear in various orders depending on the message.

All the BSSMAP messages are listed in the following table.

Message name	Reference
ASSIGNMENT REQUEST	3.2.1.1
ASSIGNMENT COMPLETE	3.2.1.2
ASSIGNMENT FAILURE	3.2.1.3
CHANNEL MODIFY REQUEST	3.2.1.75
BLOCK	3.2.1.4
BLOCKING ACKNOWLEDGE	3.2.1.5
CIRCUIT GROUP BLOCK	3.2.1.41
CIRCUIT GROUP BLOCKING ACKNOWLEDGE	3.2.1.42
CIRCUIT GROUP UNBLOCK	3.2.1.43
CIRCUIT GROUP UNBLOCKING ACKNOWLEDGE	3.2.1.44
CLEAR COMMAND	3.2.1.21
CLEAR COMPLETE	3.2.1.22
CLEAR REQUEST	3.2.1.20
UNBLOCK	3.2.1.6
UNBLOCKING ACK	3.2.1.7
HANDOVER CANDIDATE ENQUIRE	3.2.1.14
HANDOVER CANDIDATE RESPONSE	3.2.1.15
HANDOVER REQUEST	3.2.1.8
HANDOVER REQUIRED	3.2.1.9
HANDOVER REQUIRED REJECT	3.2.1.37
HANDOVER REQUEST ACKNOWLEDGE	3.2.1.10
HANDOVER COMMAND	3.2.1.11
HANDOVER COMPLETE	3.2.1.12
HANDOVER SUCCEEDED	3.2.1.13
HANDOVER FAILURE	3.2.1.16
HANDOVER PERFORMED	3.2.1.25
HANDOVER DETECT	3.2.1.40
RESOURCE REQUEST	3.2.1.17
RESET	3.2.1.23
RESET ACK	3.2.1.24
RESOURCE INDICATION	3.2.1.18
PAGING	3.2.1.19
OVERLOAD	3.2.1.26
MSC INVOKE TRACE	3.2.1.27
BSS INVOKE TRACE	3.2.1.28
CLASSMARK UPDATE	3.2.1.29
CLASSMARK REQUEST	3.2.1.46
CIPHER MODE COMMAND	3.2.1.30
CIPHER MODE COMPLETE	3.2.1.31
CIPHER MODE REJECT	3.2.1.48
COMPLETE LAYER 3 INFORMATION	3.2.1.32
QUEUING INDICATION	3.2.1.33
SAPI "N" REJECT	3.2.1.34
RESET CIRCUIT	3.2.1.38
RESET CIRCUIT ACKNOWLEDGE	3.2.1.39
CONFUSION	3.2.1.45
UNEQUIPPED CIRCUIT	3.2.1.47
LOAD INDICATION	3.2.1.49
VGCS/VBS SETUP	3.2.1.50
VGCS/VBS SETUP ACK	3.2.1.51
VGCS/VBS SETUP REFUSE	3.2.1.52
VGCS/VBS ASSIGNMENT REQUEST	3.2.1.53
VGCS/VBS ASSIGNMENT RESULT	3.2.1.54
VGCS/VBS ASSIGNMENT FAILURE	3.2.1.55
VGCS/VBS QUEUING INDICATION	3.2.1.56
UPLINK REQUEST	3.2.1.57
UPLINK REQUEST ACKNOWLEDGE	3.2.1.58
UPLINK REQUEST CONFIRMATION	3.2.1.59
UPLINK RELEASE INDICATION	3.2.1.60
UPLINK REJECT COMMAND	3.2.1.61
UPLINK RELEASE COMMAND	3.2.1.62
UPLINK SEIZED COMMAND	3.2.1.63
SUSPEND	3.2.1.64
RESUME	3.2.1.65
CHANGE CIRCUIT	3.2.1.66
CHANGE CIRCUIT ACKNOWLEDGE	3.2.1.67

Message name	Reference
COMMON ID	3.2.1.68
LSA INFORMATION	3.2.1.69
CONNECTION ORIENTED INFORMATION	3.2.1.70
PERFORM LOCATION REQUEST	3.2.1.71
PERFORM LOCATION RESPONSE	3.2.1.72
PERFORM LOCATION ABORT	3.2.1.73
CONNECTIONLESS INFORMATION	3.2.1.74

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

3.2.1.74 CONNECTIONLESS INFORMATION

This message is sent from the BSS to the MSC or from the MSC to the BSS. The MSC forwards the CONNECTIONLESS INFORMATION message to the BSS as to which cell is indicated in the message. The message is sent as a connectionless SCCP message.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Type	3.2.2.1	Both	M	1
Network Element Identity (source)	3.2.2.69	Both	M	3-n
Network Element Identity (target)	3.2.2.69	Both	M	3-n
APDU	3.2.2.68	Both	M	3-n
Segmentation	3.2,2,74	Both	C (note 1)	5
Return Error Request	3.2.2.72	Both	C (note 2)	3-n
Return Error Cause	3.2.2.73	Both	C (note 3)	3-n
NOTE 1: This IE is present if and only if the APDU contains a message segment. NOTE 2: The IE is present when the source of a message requests for an error response if the message cannot be delivered to its final destination. If this IE is present, then Return Error Cause shall not be present. NOTE 3: The IE is present when an error is indicated that the message was not delivered to its final destination. If this IE is present, then Return Error Request shall not be present. Refer to 3GPP TS 49.031 for cause values				

3.2.1.75 CHANNEL MODIFY REQUEST

This message is sent from the BSS to the MSC via the relevant SCCP connection in order to request the MSC to start the assignment procedure for changing the channel configuration according to assignment procedure defined in 3GPP TS 23.172 and 3GPP TS 25.413.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Type	3.2.2.1	BSS-MSC	M	1
Cause	3.2.2.5	BSS-MSC	M	3-4

The following cause value is applicable to this message:

- Alternative channel configuration requested;

NOTE: In this version of the protocol this message is supported only on the MAP E-interface in case of network-initiated SCUDIF 3GPP TS 23.172. With all other cause values the anchor MSC may ignore this message.

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

3.2.2.1 Message Type

Message Type uniquely identifies the message being sent. It is a single octet element, mandatory in all messages.

Bit 8 is reserved for future extension of the code set. All unassigned codes are spare.

	8 7 6 5 4 3 2 1	
	0 0 0 0 0 0 0 0	Reserved.
ASSIGNMENT MESSAGES		
	0 0 0 0 0 0 0 1	ASSIGNMENT REQUEST
	0 0 0 0 0 0 1 0	ASSIGNMENT COMPLETE
	0 0 0 0 0 0 1 1	ASSIGNMENT FAILURE
	0 0 0 0 1 0 0 0	CHANNEL MODIFY REQUEST
HANDOVER MESSAGES		
	0 0 0 1 0 0 0 0	HANDOVER REQUEST
	0 0 0 1 0 0 0 1	HANDOVER REQUIRED
	0 0 0 1 0 0 1 0	HANDOVER REQUEST ACKNOWLEDGE
	0 0 0 1 0 0 1 1	HANDOVER COMMAND
	0 0 0 1 0 1 0 0	HANDOVER COMPLETE
	0 0 0 1 0 1 0 1	HANDOVER SUCCEEDED
	0 0 0 1 0 1 1 0	HANDOVER FAILURE
	0 0 0 1 0 1 1 1	HANDOVER PERFORMED
	0 0 0 1 1 0 0 0	HANDOVER CANDIDATE ENQUIRE
	0 0 0 1 1 0 0 1	HANDOVER CANDIDATE RESPONSE
	0 0 0 1 1 0 1 0	HANDOVER REQUIRED REJECT
	0 0 0 1 1 0 1 1	HANDOVER DETECT
RELEASE MESSAGES		
	0 0 1 0 0 0 0 0	CLEAR COMMAND
	0 0 1 0 0 0 0 1	CLEAR COMPLETE
	0 0 1 0 0 0 1 0	CLEAR REQUEST
	0 0 1 0 0 0 1 1	RESERVED
	0 0 1 0 0 1 0 0	RESERVED
	0 0 1 0 0 1 0 1	SAPI "N" REJECT
	0 0 1 0 0 1 1 0	CONFUSION
OTHER CONNECTION RELATED MESSAGES		
	0 0 1 0 1 0 0 0	SUSPEND
	0 0 1 0 1 0 0 1	RESUME
	0 0 1 0 1 0 1 0	Reserved (See note)
	0 0 1 0 1 0 1 1	PERFORM LOCATION REQUEST
	0 0 1 0 1 1 0 0	LSA INFORMATION
	0 0 1 0 1 1 0 1	PERFORM LOCATION RESPONSE
	0 0 1 0 1 1 1 0	PERFORM LOCATION ABORT
	0 0 1 0 1 1 1 1	COMMON ID
GENERAL MESSAGES		
	0 0 1 1 0 0 0 0	RESET
	0 0 1 1 0 0 0 1	RESET ACKNOWLEDGE
	0 0 1 1 0 0 1 0	OVERLOAD
	0 0 1 1 0 0 1 1	RESERVED
	0 0 1 1 0 1 0 0	RESET CIRCUIT
	0 0 1 1 0 1 0 1	RESET CIRCUIT ACKNOWLEDGE
	0 0 1 1 0 1 1 0	MSC INVOKE TRACE
	0 0 1 1 0 1 1 1	BSS INVOKE TRACE
	0 0 1 1 1 0 1 0	CONNECTIONLESS INFORMATION
TERRESTRIAL RESOURCE MESSAGES		
	0 1 0 0 0 0 0 0	BLOCK
	0 1 0 0 0 0 0 1	BLOCKING ACKNOWLEDGE
	0 1 0 0 0 0 1 0	UNBLOCK
	0 1 0 0 0 0 1 1	UNBLOCKING ACKNOWLEDGE
	0 1 0 0 0 1 0 0	CIRCUIT GROUP BLOCK
	0 1 0 0 0 1 0 1	CIRCUIT GROUP BLOCKING ACKNOWLEDGE
	0 1 0 0 0 1 1 0	CIRCUIT GROUP UNBLOCK
	0 1 0 0 0 1 1 1	CIRCUIT GROUP UNBLOCKING ACKNOWLEDGE
	0 1 0 0 1 0 0 0	UNEQUIPPED CIRCUIT
	0 1 0 0 1 1 1 0	CHANGE CIRCUIT
	0 1 0 0 1 1 1 1	CHANGE CIRCUIT ACKNOWLEDGE

	8 7 6 5 4 3 2 1	
RADIO RESOURCE MESSAGES		
	0 1 0 1 0 0 0 0	RESOURCE REQUEST
	0 1 0 1 0 0 0 1	RESOURCE INDICATION
	0 1 0 1 0 0 1 0	PAGING
	0 1 0 1 0 0 1 1	CIPHER MODE COMMAND
	0 1 0 1 0 1 0 0	CLASSMARK UPDATE
	0 1 0 1 0 1 0 1	CIPHER MODE COMPLETE
	0 1 0 1 0 1 1 0	QUEUING INDICATION
	0 1 0 1 0 1 1 1	COMPLETE LAYER 3 INFORMATION
	0 1 0 1 1 0 0 0	CLASSMARK REQUEST
	0 1 0 1 1 0 0 1	CIPHER MODE REJECT
	0 1 0 1 1 0 1 0	LOAD INDICATION
VGCS/VBS		
	0 0 0 0 0 1 0 0	VGCS/VBS SETUP
	0 0 0 0 0 1 0 1	VGCS/VBS SETUP ACK
	0 0 0 0 0 1 1 0	VGCS/VBS SETUP REFUSE
	0 0 0 0 0 1 1 1	VGCS/VBS ASSIGNMENT REQUEST
	0 0 0 1 1 1 0 0	VGCS/VBS ASSIGNMENT RESULT
	0 0 0 1 1 1 0 1	VGCS/VBS ASSIGNMENT FAILURE
	0 0 0 1 1 1 1 0	VGCS/VBS QUEUING INDICATION
	0 0 0 1 1 1 1 1	UPLINK REQUEST
	0 0 1 0 0 1 1 1	UPLINK REQUEST ACKNOWLEDGE
	0 1 0 0 1 0 0 1	UPLINK REQUEST CONFIRMATION
	0 1 0 0 1 0 1 0	UPLINK RELEASE INDICATION
	0 1 0 0 1 0 1 1	UPLINK REJECT COMMAND
	0 1 0 0 1 1 0 0	UPLINK RELEASE COMMAND
	0 1 0 0 1 1 0 1	UPLINK SEIZED COMMAND
NOTE: This value was allocated in an earlier phase of the protocol and shall not be used in the future.		

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

3.2.2.5 Cause

The cause element is used to indicate the reason for a particular event to have occurred and is coded as shown below.

The cause value is a single octet element if the extension bit (bit 8) is set to 0. If it is set to 1 then the cause value is a 2 octet field. If the value of the first octet of the cause field is 1XXX 0000 then the second octet is reserved for national applications (XXX will still indicate the class).

8	7	6	5	4	3	2	1	
Element identifier								octet 1
Length								octet 2
0/1 ext	Cause Value							octet 3
								(octet 4)

The length indicator is a binary representation of the length of the following element.

Cause Value:

Class (000): Normal event
Class (001): Normal event
Class (010): Resource unavailable
Class (011): Service or option not available
Class (100): Service or option not implemented
Class (101): invalid message (eg parameter out of range)
Class (110): protocol error
Class (111): interworking

In the following table, "reserved for international use" means that this codepoint should not be used until a meaning has been assigned to it following the process of international standardisation. "Reserved for national use" indicates codepoints that may be used by operators without the need for international standardization.

Cause value							Cause	
Class			Value				Number	
7	6	5	4	3	2	1		
0	0	0	0	0	0	0		Radio interface message failure
0	0	0	0	0	0	1		Radio interface failure
0	0	0	0	0	1	0		Uplink quality
0	0	0	0	0	1	1		Uplink strength
0	0	0	0	1	0	0		Downlink quality
0	0	0	0	1	0	1		Downlink strength
0	0	0	0	1	1	0		Distance
0	0	0	0	1	1	1		O and M intervention
0	0	0	1	0	0	0		Response to MSC invocation
0	0	0	1	0	0	1		Call control
0	0	0	1	0	1	0		Radio interface failure, reversion to old channel
0	0	0	1	0	1	1		Handover successful
0	0	0	1	1	0	0		Better Cell
0	0	0	1	1	0	1		Directed Retry
0	0	0	1	1	1	0		Joined group call channel
0	0	0	1	1	1	1		Traffic
0	0	1	0	0	0	0		Reduce load in serving cell
0	0	1	0	0	0	1		Traffic load in target cell higher than in source cell
0	0	1	0	0	1	0		Relocation triggered NOTE
0	0	1	0	0	1	1		}Alternative channel configuration requested NOTE
0	0	1	0	1	0	1		} } Reserved for international use
to								
0	0	1	0	1	1	1		}
0	0	1	1	0	0	0		} } Reserved for national use
to								
0	0	1	1	1	1	1		}
0	1	0	0	0	0	0		Equipment failure
0	1	0	0	0	0	1		No radio resource available
0	1	0	0	0	1	0		Requested terrestrial resource unavailable
0	1	0	0	0	1	1		CCCH overload
0	1	0	0	1	0	0		Processor overload
0	1	0	0	1	0	1		BSS not equipped
0	1	0	0	1	1	0		MS not equipped
0	1	0	0	1	1	1		Invalid cell
0	1	0	1	0	0	0		Traffic Load
0	1	0	1	0	0	1		Preemption
0	1	0	1	0	1	0		} } Reserved for national use
to								
0	1	0	1	1	1	1		}
0	1	1	0	0	0	0		Requested transcoding/rate adaption unavailable
0	1	1	0	0	0	1		Circuit pool mismatch
0	1	1	0	0	1	0		Switch circuit pool
0	1	1	0	0	1	1		Requested speech version unavailable
0	1	1	0	1	0	0		LSA not allowed
0	1	1	0	1	0	1		} } Reserved for international use
to								
0	1	1	1	1	1	1		}
1	0	0	0	0	0	0		Ciphering algorithm not supported
1	0	0	0	0	0	1		GERAN Iu-mode failure
1	0	0	0	0	1	0		Incoming Relocation Not Supported Due To PUESBINE Feature
1	0	0	0	0	1	1		Access Restricted Due to Shared Networks NOTE
1	0	0	0	1	0	0		} } Reserved for international use
to								
1	0	0	0	1	1	1		}
1	0	0	1	0	0	0		} } Reserved for national use
to								
1	0	0	1	1	1	1		}
1	0	1	0	0	0	0		Terrestrial circuit already allocated
1	0	1	0	0	0	1		Invalid message contents
1	0	1	0	0	1	0		Information element or field missing
1	0	1	0	0	1	1		Incorrect value

Cause value							Cause	
Class			Value				Number	
1	0	1	0	1	0	0		Unknown Message type
1	0	1	0	1	0	1		Unknown Information Element
1	0	1	0	1	1	0		} } Reserved for international use
			to					
1	0	1	0	1	1	1		}
1	0	1	1	0	0	0		} } Reserved for national use
			to					
1	0	1	1	1	1	1		}
1	1	0	0	0	0	0		Protocol Error between BSS and MSC
1	1	0	0	0	0	1		VGCS/VBS call non existent
1	1	0	0	0	1	0		} } Reserved for international use
			to					
1	1	0	0	1	1	1		}
1	1	0	1	0	0	0		} } Reserved for national use
			to					
1	1	0	1	1	1	1		}
1	1	1	0	0	0	0		} } Reserved for international use
			to					
1	1	1	0	1	1	1		}
1	1	1	1	0	0	0		} } Reserved for national use
			to					
1	1	1	1	1	1	1		}
NOTE: This cause value is only sent by 3G_MSC-B over the MAP/E interface.								

3GPP TSG-GERAN WG2 Meeting #24bis
Quebec, Canada. 23rd - 27th May 2005.

Tdoc ⌘G2-050337

CR-Form-v7.1

CHANGE REQUEST

⌘ **48.008** **CR** **161** ⌘ **rev** **2** ⌘ Current version: **7.0.0** ⌘

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

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

Title:	⌘	Network-initiated SCUDIF on MAP/E-interface in case of BSSAP
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Work item code:	⌘	TEI-6
Date:	⌘	23/05/2005
Category:	⌘	**A**
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D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In case of network-initiated SCUDIF support in UTRAN it should be possible to send from non-anchor MSC towards anchor MSC over MAP E-interface an indication about conditions for service change becoming suitable. That indication needs to be sent also between MSCs when BSSAP is used over MAP E-interface. In case of RANAP this indication is sent by re-using RAB MODIFY REQUEST message with a new optional IE indicating to the MSC the existence of suitable conditions for a service change. When RANAP is used over the MAP E-interface that message is sent from the non-anchor MSC to the anchor MSC inside AN-APDU. On the MAP E-interface currently the AN-APDU containing an access network protocol message is mandatory. However in BSSAP there does not currently exist an appropriate message that could be used for this indication.
Summary of change:	⌘	A new BSSAP message *Channel Modify Request* and a new Cause value *Alternative Channel Configuration Requested* are defined.
Consequences if not approved:	⌘	The network-initiated SCUDIF procedures in inter-MSC scenarios are not supported.

Clauses affected:	⌘	1.1, 3.2, 3.2.1.75 (new), 3.2.2.1, 3.2.2.5

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	29.002, 29.010, 49.008
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘

********** FIRST MODIFIED SECTION **********

1.1 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] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.003: "Numbering, addressing and identification".

[3] 3GPP TS 23.009: "Handover procedures".

[3a] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[4] (void)

[5] 3GPP TS 43.059: "Functional stage 2 description of Location Services (LCS) in GERAN".

[6] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[7] (void).

[8] (void).

[9] (void).

[10] (void).

[11] (void).

[12] (void).

[13] (void).

[14] (void).

[15] (void).

[16] 3GPP TS 48.002: "Base Station System - Mobile-services Switching Centre (BSS-MSC) interface; Interface principles".

[17] 3GPP TS 48.006: "Signalling transport mechanism specification for the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18] 3GPP TS 48.020: "Rate adaption on the Base Station System - Mobile-services Switching Centre (BSS-MSC) interface".

[18a] (void).

[19] 3GPP TS 48.071: "Location Services (LCS); Serving Mobile Location Center - Base Station System (SMLC-BSS) interface; Layer 3 specification".

[19a] 3GPP TS 49.031: "Location Services (LCS); Base Station System Application Part LCS Extension (BSSAP-LE)".

[20] (void).

[21] (void).

[22] (void).

[23] (void).

[24] (void).

[25] (void).

[26] (void).

[27] (void).

[28] 3GPP TS 52.021: "Network Management (NM) procedures and messages on the A-bis Interface".

[29] (void).

[30] (void).

[31] 3GPP TS 25.413: "UTRAN Iu Interface RANAP signalling".

[32] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".

[33] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[34] (void).

[35] (void).

[36] (void).

[37] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[38] ITU-T Recommendation X.25: "Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit".

[39] 3GPP TS 43.020: "Security-related network functions".

[40] 3GPP TS 43.073: "Support of Localised Service Area (SoLSA); Stage 2".

[41] 3GPP TS 52.008: "Telecommunication management; GSM subscriber and equipment trace".

[42] (void).

[43] 3GPP TS 45.002: "Multiplexing and multiple access on the radio path".

[44] 3GPP TS 26.103: "Speech codec list for GSM and UMTS".

[45] 3GPP TS 43.051: "GSM/EDGE Radio Access Network (GERAN) overall description; Stage 2".

[46] 3GPP TS 23.172: " Technical realization of Circuit Switched (CS) multimedia service UDI/RDI fallback and service modification; Stage 2".

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

3.2 Message Formats and Coding

This sub-clause defines the coding and format of the messages required for the BSSMAP.

For each message there is, in sub-clause 3.2.1, a table listing the signalling elements in their order of appearance in the transmitted message.

There is no general rule for the order of signalling elements: it happens that the same elements appear in various orders depending on the message.

All the BSSMAP messages are listed in the following table.

Message name	Reference
ASSIGNMENT REQUEST	3.2.1.1
ASSIGNMENT COMPLETE	3.2.1.2
ASSIGNMENT FAILURE	3.2.1.3
CHANNEL MODIFY REQUEST	3.2.1.75
BLOCK	3.2.1.4
BLOCKING ACKNOWLEDGE	3.2.1.5
CIRCUIT GROUP BLOCK	3.2.1.41
CIRCUIT GROUP BLOCKING ACKNOWLEDGE	3.2.1.42
CIRCUIT GROUP UNBLOCK	3.2.1.43
CIRCUIT GROUP UNBLOCKING ACKNOWLEDGE	3.2.1.44
CLEAR COMMAND	3.2.1.21
CLEAR COMPLETE	3.2.1.22
CLEAR REQUEST	3.2.1.20
UNBLOCK	3.2.1.6
UNBLOCKING ACK	3.2.1.7
HANDOVER CANDIDATE ENQUIRE	3.2.1.14
HANDOVER CANDIDATE RESPONSE	3.2.1.15
HANDOVER REQUEST	3.2.1.8
HANDOVER REQUIRED	3.2.1.9
HANDOVER REQUIRED REJECT	3.2.1.37
HANDOVER REQUEST ACKNOWLEDGE	3.2.1.10
HANDOVER COMMAND	3.2.1.11
HANDOVER COMPLETE	3.2.1.12
HANDOVER SUCCEEDED	3.2.1.13
HANDOVER FAILURE	3.2.1.16
HANDOVER PERFORMED	3.2.1.25
HANDOVER DETECT	3.2.1.40
RESOURCE REQUEST	3.2.1.17
RESET	3.2.1.23
RESET ACK	3.2.1.24
RESOURCE INDICATION	3.2.1.18
PAGING	3.2.1.19
OVERLOAD	3.2.1.26
MSC INVOKE TRACE	3.2.1.27
BSS INVOKE TRACE	3.2.1.28
CLASSMARK UPDATE	3.2.1.29
CLASSMARK REQUEST	3.2.1.46
CIPHER MODE COMMAND	3.2.1.30
CIPHER MODE COMPLETE	3.2.1.31
CIPHER MODE REJECT	3.2.1.48
COMPLETE LAYER 3 INFORMATION	3.2.1.32
QUEUING INDICATION	3.2.1.33
SAPI "N" REJECT	3.2.1.34
RESET CIRCUIT	3.2.1.38
RESET CIRCUIT ACKNOWLEDGE	3.2.1.39
CONFUSION	3.2.1.45
UNEQUIPPED CIRCUIT	3.2.1.47
LOAD INDICATION	3.2.1.49
VGCS/VBS SETUP	3.2.1.50
VGCS/VBS SETUP ACK	3.2.1.51
VGCS/VBS SETUP REFUSE	3.2.1.52
VGCS/VBS ASSIGNMENT REQUEST	3.2.1.53
VGCS/VBS ASSIGNMENT RESULT	3.2.1.54
VGCS/VBS ASSIGNMENT FAILURE	3.2.1.55
VGCS/VBS QUEUING INDICATION	3.2.1.56
UPLINK REQUEST	3.2.1.57
UPLINK REQUEST ACKNOWLEDGE	3.2.1.58
UPLINK REQUEST CONFIRMATION	3.2.1.59
UPLINK RELEASE INDICATION	3.2.1.60
UPLINK REJECT COMMAND	3.2.1.61
UPLINK RELEASE COMMAND	3.2.1.62
UPLINK SEIZED COMMAND	3.2.1.63

Message name	Reference
SUSPEND	3.2.1.64
RESUME	3.2.1.65
CHANGE CIRCUIT	3.2.1.66
CHANGE CIRCUIT ACKNOWLEDGE	3.2.1.67
COMMON ID	3.2.1.68
LSA INFORMATION	3.2.1.69
CONNECTION ORIENTED INFORMATION	3.2.1.70
PERFORM LOCATION REQUEST	3.2.1.71
PERFORM LOCATION RESPONSE	3.2.1.72
PERFORM LOCATION ABORT	3.2.1.73
CONNECTIONLESS INFORMATION	3.2.1.74

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

3.2.1.74 CONNECTIONLESS INFORMATION

This message is sent from the BSS to the MSC or from the MSC to the BSS. The MSC forwards the CONNECTIONLESS INFORMATION message to the BSS as to which cell is indicated in the message. The message is sent as a connectionless SCCP message.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Type	3.2.2.1	Both	M	1
Network Element Identity (source)	3.2.2.69	Both	M	3-n
Network Element Identity (target)	3.2.2.69	Both	M	3-n
APDU	3.2.2.68	Both	M	3-n
Segmentation	3.2,2,74	Both	C (note 1)	5
Return Error Request	3.2.2.72	Both	C (note 2)	3-n
Return Error Cause	3.2.2.73	Both	C (note 3)	3-n
NOTE 1: This IE is present if and only if the APDU contains a message segment. NOTE 2: The IE is present when the source of a message requests for an error response if the message cannot be delivered to its final destination. If this IE is present, then Return Error Cause shall not be present. NOTE 3: The IE is present when an error is indicated that the message was not delivered to its final destination. If this IE is present, then Return Error Request shall not be present. Refer to 3GPP TS 49.031 for cause values				

3.2.1.75 CHANNEL MODIFY REQUEST

This message is sent from the BSS to the MSC via the relevant SCCP connection in order to request the MSC to start the assignment procedure for changing the channel configuration according to assignment procedure defined in 3GPP TS 23.172 and 3GPP TS 25.413.

INFORMATION ELEMENT	REFERENCE	DIRECTION	TYPE	LEN
Message Type	3.2.2.1	BSS-MSC	M	1
Cause	3.2.2.5	BSS-MSC	M	3-4

The following cause value is applicable to this message:

- Alternative channel configuration requested;

NOTE: In this version of the protocol this message is supported only on the MAP E-interface in case of network-initiated SCUDIF 3GPP TS 23.172. With all other cause values the anchor MSC may ignore this message.

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

3.2.2.1 Message Type

Message Type uniquely identifies the message being sent. It is a single octet element, mandatory in all messages.

Bit 8 is reserved for future extension of the code set. All unassigned codes are spare.

	8 7 6 5 4 3 2 1	
	0 0 0 0 0 0 0 0	Reserved.
ASSIGNMENT MESSAGES		
	0 0 0 0 0 0 0 1	ASSIGNMENT REQUEST
	0 0 0 0 0 0 1 0	ASSIGNMENT COMPLETE
	0 0 0 0 0 0 1 1	ASSIGNMENT FAILURE
	0 0 0 0 1 0 0 0	CHANNEL MODIFY REQUEST
HANDOVER MESSAGES		
	0 0 0 1 0 0 0 0	HANDOVER REQUEST
	0 0 0 1 0 0 0 1	HANDOVER REQUIRED
	0 0 0 1 0 0 1 0	HANDOVER REQUEST ACKNOWLEDGE
	0 0 0 1 0 0 1 1	HANDOVER COMMAND
	0 0 0 1 0 1 0 0	HANDOVER COMPLETE
	0 0 0 1 0 1 0 1	HANDOVER SUCCEEDED
	0 0 0 1 0 1 1 0	HANDOVER FAILURE
	0 0 0 1 0 1 1 1	HANDOVER PERFORMED
	0 0 0 1 1 0 0 0	HANDOVER CANDIDATE ENQUIRE
	0 0 0 1 1 0 0 1	HANDOVER CANDIDATE RESPONSE
	0 0 0 1 1 0 1 0	HANDOVER REQUIRED REJECT
	0 0 0 1 1 0 1 1	HANDOVER DETECT
RELEASE MESSAGES		
	0 0 1 0 0 0 0 0	CLEAR COMMAND
	0 0 1 0 0 0 0 1	CLEAR COMPLETE
	0 0 1 0 0 0 1 0	CLEAR REQUEST
	0 0 1 0 0 0 1 1	RESERVED
	0 0 1 0 0 1 0 0	RESERVED
	0 0 1 0 0 1 0 1	SAPI "N" REJECT
	0 0 1 0 0 1 1 0	CONFUSION
OTHER CONNECTION RELATED MESSAGES		
	0 0 1 0 1 0 0 0	SUSPEND
	0 0 1 0 1 0 0 1	RESUME
	0 0 1 0 1 0 1 0	Reserved (See note)
	0 0 1 0 1 0 1 1	PERFORM LOCATION REQUEST
	0 0 1 0 1 1 0 0	LSA INFORMATION
	0 0 1 0 1 1 0 1	PERFORM LOCATION RESPONSE
	0 0 1 0 1 1 1 0	PERFORM LOCATION ABORT
	0 0 1 0 1 1 1 1	COMMON ID
GENERAL MESSAGES		
	0 0 1 1 0 0 0 0	RESET
	0 0 1 1 0 0 0 1	RESET ACKNOWLEDGE
	0 0 1 1 0 0 1 0	OVERLOAD
	0 0 1 1 0 0 1 1	RESERVED
	0 0 1 1 0 1 0 0	RESET CIRCUIT
	0 0 1 1 0 1 0 1	RESET CIRCUIT ACKNOWLEDGE
	0 0 1 1 0 1 1 0	MSC INVOKE TRACE
	0 0 1 1 0 1 1 1	BSS INVOKE TRACE
	0 0 1 1 1 0 1 0	CONNECTIONLESS INFORMATION
TERRESTRIAL RESOURCE MESSAGES		
	0 1 0 0 0 0 0 0	BLOCK
	0 1 0 0 0 0 0 1	BLOCKING ACKNOWLEDGE
	0 1 0 0 0 0 1 0	UNBLOCK
	0 1 0 0 0 0 1 1	UNBLOCKING ACKNOWLEDGE
	0 1 0 0 0 1 0 0	CIRCUIT GROUP BLOCK
	0 1 0 0 0 1 0 1	CIRCUIT GROUP BLOCKING ACKNOWLEDGE
	0 1 0 0 0 1 1 0	CIRCUIT GROUP UNBLOCK
	0 1 0 0 0 1 1 1	CIRCUIT GROUP UNBLOCKING ACKNOWLEDGE
	0 1 0 0 1 0 0 0	UNEQUIPPED CIRCUIT
	0 1 0 0 1 1 1 0	CHANGE CIRCUIT
	0 1 0 0 1 1 1 1	CHANGE CIRCUIT ACKNOWLEDGE

	8 7 6 5 4 3 2 1	
RADIO RESOURCE MESSAGES		
	0 1 0 1 0 0 0 0	RESOURCE REQUEST
	0 1 0 1 0 0 0 1	RESOURCE INDICATION
	0 1 0 1 0 0 1 0	PAGING
	0 1 0 1 0 0 1 1	CIPHER MODE COMMAND
	0 1 0 1 0 1 0 0	CLASSMARK UPDATE
	0 1 0 1 0 1 0 1	CIPHER MODE COMPLETE
	0 1 0 1 0 1 1 0	QUEUING INDICATION
	0 1 0 1 0 1 1 1	COMPLETE LAYER 3 INFORMATION
	0 1 0 1 1 0 0 0	CLASSMARK REQUEST
	0 1 0 1 1 0 0 1	CIPHER MODE REJECT
	0 1 0 1 1 0 1 0	LOAD INDICATION
VGCS/VBS		
	0 0 0 0 0 1 0 0	VGCS/VBS SETUP
	0 0 0 0 0 1 0 1	VGCS/VBS SETUP ACK
	0 0 0 0 0 1 1 0	VGCS/VBS SETUP REFUSE
	0 0 0 0 0 1 1 1	VGCS/VBS ASSIGNMENT REQUEST
	0 0 0 1 1 1 0 0	VGCS/VBS ASSIGNMENT RESULT
	0 0 0 1 1 1 0 1	VGCS/VBS ASSIGNMENT FAILURE
	0 0 0 1 1 1 1 0	VGCS/VBS QUEUING INDICATION
	0 0 0 1 1 1 1 1	UPLINK REQUEST
	0 0 1 0 0 1 1 1	UPLINK REQUEST ACKNOWLEDGE
	0 1 0 0 1 0 0 1	UPLINK REQUEST CONFIRMATION
	0 1 0 0 1 0 1 0	UPLINK RELEASE INDICATION
	0 1 0 0 1 0 1 1	UPLINK REJECT COMMAND
	0 1 0 0 1 1 0 0	UPLINK RELEASE COMMAND
	0 1 0 0 1 1 0 1	UPLINK SEIZED COMMAND
NOTE: This value was allocated in an earlier phase of the protocol and shall not be used in the future.		

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

3.2.2.5 Cause

The cause element is used to indicate the reason for a particular event to have occurred and is coded as shown below.

The cause value is a single octet element if the extension bit (bit 8) is set to 0. If it is set to 1 then the cause value is a 2 octet field. If the value of the first octet of the cause field is 1XXX 0000 then the second octet is reserved for national applications (XXX will still indicate the class).

8	7	6	5	4	3	2	1	
Element identifier								octet 1
Length								octet 2
0/1 ext	Cause Value							octet 3
								(octet 4)

The length indicator is a binary representation of the length of the following element.

Cause Value:

Class (000): Normal event
Class (001): Normal event
Class (010): Resource unavailable
Class (011): Service or option not available
Class (100): Service or option not implemented
Class (101): invalid message (eg parameter out of range)
Class (110): protocol error
Class (111): interworking

In the following table, "reserved for international use" means that this codepoint should not be used until a meaning has been assigned to it following the process of international standardisation. "Reserved for national use" indicates codepoints that may be used by operators without the need for international standardization.

Cause value							Cause	
Class			Value				Number	
7	6	5	4	3	2	1		
0	0	0	0	0	0	0		Radio interface message failure
0	0	0	0	0	0	1		Radio interface failure
0	0	0	0	0	1	0		Uplink quality
0	0	0	0	0	1	1		Uplink strength
0	0	0	0	1	0	0		Downlink quality
0	0	0	0	1	0	1		Downlink strength
0	0	0	0	1	1	0		Distance
0	0	0	0	1	1	1		O and M intervention
0	0	0	1	0	0	0		Response to MSC invocation
0	0	0	1	0	0	1		Call control
0	0	0	1	0	1	0		Radio interface failure, reversion to old channel
0	0	0	1	0	1	1		Handover successful
0	0	0	1	1	0	0		Better Cell
0	0	0	1	1	0	1		Directed Retry
0	0	0	1	1	1	0		Joined group call channel
0	0	0	1	1	1	1		Traffic
0	0	1	0	0	0	0		Reduce load in serving cell
0	0	1	0	0	0	1		Traffic load in target cell higher than in source cell
0	0	1	0	0	1	0		Relocation triggered NOTE
0	0	1	0	0	1	1		}Alternative channel configuration requested NOTE
0	0	1	0	1	0	1		} } Reserved for international use
0	0	1	0	1	1	1		}
0	0	1	1	0	0	0		} } Reserved for national use
0	0	1	1	1	1	1		}
0	1	0	0	0	0	0		Equipment failure
0	1	0	0	0	0	1		No radio resource available
0	1	0	0	0	1	0		Requested terrestrial resource unavailable
0	1	0	0	0	1	1		CCCH overload
0	1	0	0	1	0	0		Processor overload
0	1	0	0	1	0	1		BSS not equipped
0	1	0	0	1	1	0		MS not equipped
0	1	0	0	1	1	1		Invalid cell
0	1	0	1	0	0	0		Traffic Load
0	1	0	1	0	0	1		Preemption
0	1	0	1	0	1	0		} } Reserved for national use
0	1	0	1	1	1	1		}
0	1	1	0	0	0	0		Requested transcoding/rate adaption unavailable
0	1	1	0	0	0	1		Circuit pool mismatch
0	1	1	0	0	1	0		Switch circuit pool
0	1	1	0	0	1	1		Requested speech version unavailable
0	1	1	0	1	0	0		LSA not allowed
0	1	1	0	1	0	1		} } Reserved for international use
0	1	1	1	1	1	1		}
1	0	0	0	0	0	0		Ciphering algorithm not supported
1	0	0	0	0	0	1		GERAN Iu-mode failure
1	0	0	0	0	1	0		Incoming Relocation Not Supported Due To PUESBINE Feature
1	0	0	0	0	1	1		Access Restricted Due to Shared Networks NOTE
1	0	0	0	1	0	0		} } Reserved for international use
1	0	0	0	1	1	1		}
1	0	0	1	0	0	0		} } Reserved for national use
1	0	0	1	1	1	1		}
1	0	1	0	0	0	0		Terrestrial circuit already allocated

Cause value							Cause	
Class			Value				Number	
1	0	1	0	0	0	1		Invalid message contents
1	0	1	0	0	1	0		Information element or field missing
1	0	1	0	0	1	1		Incorrect value
1	0	1	0	1	0	0		Unknown Message type
1	0	1	0	1	0	1		Unknown Information Element
1	0	1	0	1	1	0		}
			to					} Reserved for international use
1	0	1	0	1	1	1		}
1	0	1	1	0	0	0		}
			to					} Reserved for national use
1	0	1	1	1	1	1		}
1	1	0	0	0	0	0		Protocol Error between BSS and MSC
1	1	0	0	0	0	1		VGCS/VBS call non existent
1	1	0	0	0	1	0		}
			to					} Reserved for international use
1	1	0	0	1	1	1		}
1	1	0	1	0	0	0		}
			to					} Reserved for national use
1	1	0	1	1	1	1		}
1	1	1	0	0	0	0		}
			to					} Reserved for international use
1	1	1	0	1	1	1		}
1	1	1	1	0	0	0		}
			to					} Reserved for national use
1	1	1	1	1	1	1		}
NOTE: This cause value is only sent by 3G_MSC-B over the MAP/E interface.								