

3GPP TSG CN Plenary Meeting #21
17th – 19th September 2003 Frankfurt, GERMANY.

NP-030397

Source: TSG CN WG4
Title: Small Technical Enhancements and Improvements for Rel-6
Agenda item: 9.18
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	642		N4-030748	Rel-6	Removal of SIWF description	F	6.2.0
29.002	643		N4-030749	Rel-6	Deletion of redundant Annex D	D	6.2.0
29.002	644		N4-030785	Rel-6	Removal of tables in section 7.6	D	6.2.0
29.002	649		N4-030806	Rel-6	Correction of References	F	6.2.0
29.002	648		N4-030815	Rel-6	Correction of wrong AC name in the table in 17.1.6	D	6.2.0
29.002	671		N4-030951	Rel-6	SS-Barring Category	D	6.2.0
23.018	132		N4-030959	Rel-6	Removal of SIWF material	F	5.7.0
29.002	650	1	N4-031006	Rel-6	dd SGSN, GGSN, GMLC, gsmSCF, NPLR and AuC to network resource parameter	F	6.2.0
29.010	092	2	N4-031064	Rel-6	Information transfer at MAP-E interface during inter MSC handover/relocation	F	5.3.1
29.002	674		N4-031065	Rel-6	Positioning Data for UTRAN LCS	F	6.2.0

CHANGE REQUEST

⌘ **23.018 CR 132** ⌘ rev **-** ⌘ Current version: **5.7.0** ⌘

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:	⌘ Removal of SIWF material		
Source:	⌘ CN4		
Work item code:	⌘ TEI6	Date:	⌘ 21/08/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ 23.018 contains material on the Shared InterWorking Function (SIWF), which has never been part of UMTS.		
Summary of change:	⌘ Remove material related to SIWF		
Consequences if not approved:	⌘ Confusing references to non-existent functionality; reference to a non-existent specification		

Clauses affected:	⌘ 1; 2; 3.2; 4.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
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<input type="checkbox"/>	<input checked="" type="checkbox"/>										
Other comments:	⌘										

***** First modified section *****

1 Scope

The present document specifies the technical realization of the handling of calls originated by a UMTS or GSM mobile subscriber and calls directed to a UMTS or GSM mobile subscriber, up to the point where the call is established. Normal release of the call after establishment is also specified.

In the present document, the term MS is used to denote a UMTS UE or GSM MS, as appropriate.

The handling of DTMF signalling and Off-Air Call set-up (OACSU) are not described in the present document.

The details of the effects of UMTS or GSM supplementary services on the handling of a call are described in the relevant 3GPP TS 23.07x, 3GPP TS 23.08x and 3GPP TS 23.09x series of specifications.

The specification of the handling of a request from the HLR for subscriber information is not part of basic call handling, but is required for both CAMEL (3GPP TS 23.078 [12]) and optimal routeing (3GPP TS 23.079 [13]). The use of the Provide Subscriber Information message flow is shown in 3GPP TS 23.078 [12] and 3GPP TS 23.079 [13].

~~The specification of the handling of data calls re-routed to a SIWFS is described in 3GPP TS 23.054 [8].~~

The logical separation of the MSC and VLR (shown in clauses 4, 5 and 7), and the messages transferred between them (described in clause 8) are the basis of a model used to define the externally visible behaviour of the MSC/VLR, which is a single physical entity. They do not impose any requirement except the definition of the externally visible behaviour.

If there is any conflict between the present document and the corresponding stage 3 specifications (3GPP TS 24.008 [26], 3GPP TS 25.413 [27], 3GPP TS 48.008 [2] and 3GPP TS 29.002 [29]), the stage 3 specification shall prevail.

2 References

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

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

- [1] 3GPP TS 43.020: "Security related Network Functions".
- [2] 3GPP TS 48.008: "Mobile Switching Centre - Base Station System (MSC - BSS) interface Layer 3 specification".
- [3] GSM 12.08: "Digital cellular telecommunications system (Phase 2+); Subscriber and equipment trace".
- [4] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [5] 3GPP TS 23.003: "Numbering, addressing and identification".
- [6] 3GPP TS 23.012: "Location management procedures".
- [7] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

- [8] ~~3GPP TS 23.054: "Description for the use of a Shared Inter Working Function (SIWF) in a GSM; Stage 2".~~ [Void](#)
- [9] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [10] 3GPP TS 23.066: "Support of GSM Mobile Number Portability (MNP); Stage 2".
- [11] 3GPP TS 23.072: "Call deflection Supplementary Service; Stage2".
- [12] 3GPP TS 23.078: "Customized Applications for Mobile network Enhanced Logic (CAMEL); Stage 2".
- [13] 3GPP TS 23.079: "Support of Optimal Routeing (SOR); Technical realization; Stage 2".
- [14] 3GPP TS 23.081: "Line identification Supplementary Services; Stage 2".
- [15] 3GPP TS 23.082: "Call Forwarding (CF) Supplementary Services; Stage 2".
- [16] 3GPP TS 23.083: "Call Waiting (CW) and Call Hold (HOLD) Supplementary Service; Stage 2".
- [17] 3GPP TS 23.084: "Multi Party (MPTY) Supplementary Service; Stage 2".
- [18] 3GPP TS 23.085: "Closed User Group (CUG) Supplementary Service; Stage 2".
- [19] 3GPP TS 23.086: "Advice of Charge (AoC) Supplementary Service; Stage 2".
- [20] 3GPP TS 23.087: "User-to-User Signalling (UUS) Supplementary Service; Stage 2".
- [21] 3GPP TS 23.088: "Call Barring (CB) Supplementary Service; Stage 2".
- [22] 3GPP TS 23.091: "Explicit Call Transfer (ECT) supplementary service; Stage 2".
- [23] 3GPP TS 23.093: "Technical realization of Completion of Calls to Busy Subscriber (CCBS); Stage 2".
- [24] 3GPP TS 23.116: "Super-charger technical realization; Stage 2".
- [25] 3GPP TS 23.135: "Multicall supplementary service; Stage 2".
- [25a] 3GPP TS 23.195: "Provision of UE Specific Behaviour Information to Network Entities".
- [26] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".
- [27] 3GPP TS 25.413: "UTRAN Iu interface RANAP signalling".
- [28] 3GPP TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".
- [29] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [30] 3GPP TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".
- [31] 3GPP TS 29.010: "Information Element Mapping between Mobile Station - Base Station System (MS - BSS) and Base Station System - Mobile-services Switching Centre (BSS - MSC) Signalling Procedures and the Mobile Application Part (MAP)".
- [32] 3GPP TS 33.102: "3G Security; Security architecture".
- [33] ITU-T Recommendation Q.761 (1999): "Signalling System No. 7 - ISDN User Part functional description".
- [34] ITU-T Recommendation Q.762 (1999): "Signalling System No. 7 - ISDN User Part general functions of messages and signals".
- [35] ITU-T Recommendation Q.763 (1999): "Signalling System No. 7 - ISDN User Part formats and codes".

- [36] ITU-T Recommendation Q.764 (1999): " Signalling System No. 7 – ISDN user part signalling procedures".
- [37] ITU-T Recommendation Q.850 (1996): "Usage of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No. 7 ISDN User Part".

***** Next modified section *****

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

A&O	Active & Operative
ACM	Address Complete Message
ANM	ANswer Message
AoC	Advice of Charge
BC	Bearer Capability
BOIC-exHC&BOIZC	Barring of Outgoing International Calls except those directed to the HPLMN Country & Barring of Outgoing InterZonal Calls
BOIZC	Barring of Outgoing InterZonal Calls
BOIZC-exHC	Barring of Outgoing InterZonal Calls except those directed to the HPLMN Country
CCBS	Completion of Calls to Busy Subscriber
CFB	Call Forwarding on Busy
CFNRc	Call Forwarding on mobile subscriber Not Reachable
CFNRy	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identity Presentation
CLIR	Calling Line Identity Restriction
COLP	COnnected Line identity Presentation
COLR	COnnected Line identity Restriction
CUG	Closed User Group
CW	Call Waiting
FTN	Forwarded-To Number
FTNW	Forwarded-To NetWork
GMSCB	Gateway MSC of the B subscriber
GPRS	General Packet Radio Service
HLC	Higher Layer Compatibility
HLRB	The HLR of the B subscriber
HPLMNB	The HPLMN of the B subscriber
IAM	Initial Address Message
IPLMN	Interrogating PLMN - the PLMN containing GMSCB
IWU	Inter Working Unit
LLC	Lower Layer Compatibility
MO	Mobile Originated
MPTY	MultiParTY
MT	Mobile Terminated
NDUB	Network Determined User Busy
NRCT	No Reply Call Timer
PLMN BC	(GSM or UMTS) PLMN Bearer Capability
PRN	Provide Roaming Number
SGSN	Serving GPRS support node
SIFIC	Send Information For Incoming Call
SIFOC	Send Information For Outgoing Call
SIWF	Shared Inter Working Function
SIWFS	SIWF Server. SIWFS is the entity where the used IWU is located.
SRI	Send Routeing Information
UDUB	User Determined User Busy
VLRA	The VLR of the A subscriber
VLRB	The VLR of the B subscriber

VMSCA	The Visited MSC of the A subscriber
VMSCB	The Visited MSC of the B subscriber
VPLMNA	The Visited PLMN of the A subscriber
VPLMNB	The Visited PLMN of the B subscriber

4 Architecture

Subclauses 4.1 and 4.2 show the architecture for handling a basic MO call and a basic MT call. A basic mobile-to-mobile call is treated as the concatenation of an MO call and an MT call.

4.1 Architecture for an MO call

A basic mobile originated call involves signalling between the MS and its VMSC via the BSS, between the VMSC and the VLR and between the VMSC and the destination exchange, as indicated in figure 1.

In figure 1 and throughout the present document, the term BSS is used to denote a GSM BSS or a UTRAN, as appropriate.

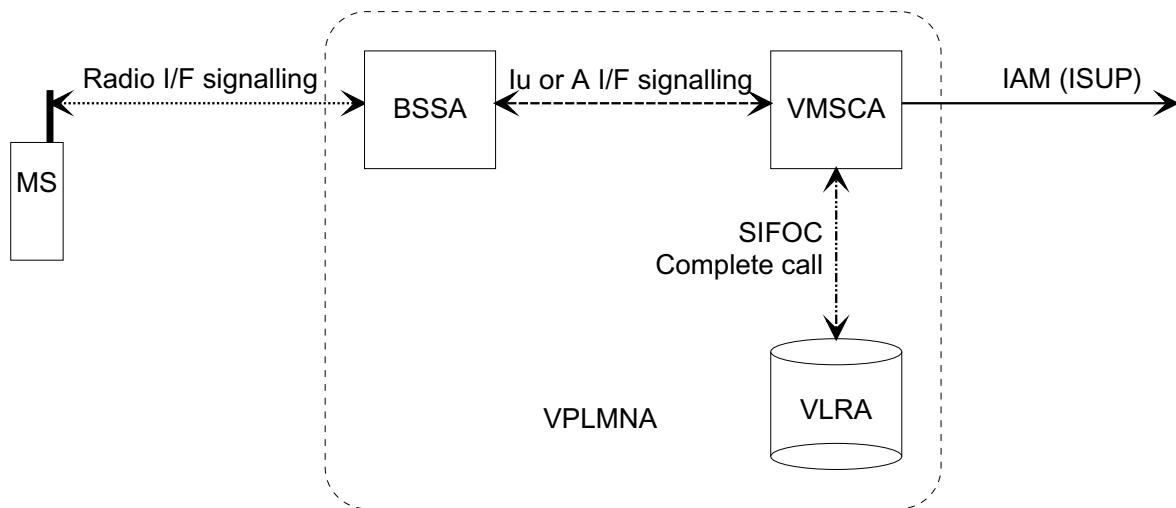


Figure 1: Architecture for a basic mobile originated call

In figure 1 and throughout the present document, the term ISUP is used to denote the telephony signalling system used between exchanges. In a given network, any telephony signalling system may be used.

When the user of an MS wishes to originate a call, the MS establishes communication with the network using radio interface signalling, and sends a message containing the address of the called party. VMSCA requests information to handle the outgoing call (SIFOC) from VLRA, over an internal interface of the MSC/VLR. If VLRA determines that the outgoing call is allowed, it responds with a Complete Call. VMSCA:

- establishes a traffic channel to the MS; and
- constructs an ISUP IAM using the called party address and sends it to the destination exchange.

NOTE:—When the non-loop method is used for data calls, the IAM is sent to the SIWFS.

***** End of document *****

CHANGE REQUEST

⌘ **29.002 CR 642** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Removal of SIWF description		
Source:	⌘ CN4		
Work item code:	⌘ TEI6	Date:	⌘ 29/08/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change: ⌘ 29.002 includes the protocol handling for signalling to a Shared data InterWorking Function (SIWF). This was introduced as part of GSM Release 97. However CN3, who are responsible for data interworking specifications, decided not to carry over the stage 2 for the SIWF as a 3GPP specification. The description in 29.002 is therefore redundant, and should be removed. However the presence of the redundant material is not seen as the cause of critical problems, so the change is proposed only for Release 6.

Summary of change: ⌘ Remove all references to the SIWF

Consequences if not approved: ⌘ Redundant material in the specification, which can cause confusion for implementers.

Clauses affected: ⌘ 6.1.3.1; 6.1.3.7; Table 6.1/1; Table 6.1/2; 7.6; 7.6.2.35; 7.6.2.36; 7.6.5.8; 7.6.5.9; 7.6.5.10; 10.8; 10.9; Table 16.2/1; 17.1.6; 17.2.2.33; 17.2.2.34; 17.3.2.31; 17.3.3; 17.5; 17.6.3; 17.7.3; 21.1; 21.5

Other specs affected:		Y	N	Other core specifications	⌘
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
				O&M Specifications	

Other comments: ⌘ The deletion of subclause 21.5 is a duplicate of the deletion of that subclause in CR 29.002-641 (Tdoc N4-030747)

*** **First modified section** ***

6.1.3 SCCP addressing

6.1.3.1 Introduction

Within the GSM System there will be a need to communicate between entities within the same PLMN and in different PLMNs. Using the Mobile Application Part (MAP) for this function implies the use of Transaction Capabilities (TC) and the Signalling Connection Control Part (SCCP) of CCITT Signalling System No. 7.

Only the entities that should be addressed are described below. If the CCITT or ITU-T SCCP is used, the format and coding of address parameters carried by the SCCP for that purpose shall comply with CCITT Recommendation Q.713 with the following restrictions:

1) Intra-PLMN addressing

For communication between entities within the same PLMN, a MAP SSN shall always be included in the called and calling party addresses. All other aspects of SCCP addressing are network specific.

2) Inter-PLMN addressing

a) Called Party Address

- SSN indicator = 1 (MAP SSN always included);
- Global title indicator = 0100 (Global title includes translation type, numbering plan, encoding scheme and nature of address indicator);
- the translation type field will be coded "00000000" (Not used). For call related messages for non-optimal routed calls (as described in 3GPP TS 23.066 [108]) directed to another PLMN the translation type field may be coded "10000000" (CRMNP);
- Routing indicator = 0 (Routing on global title);

b) Calling Party Address

- SSN indicator = 1 (MAP SSNs always included);
- Point code indicator = 0;
- Global title indicator = 0100 (Global title includes translation type, numbering plan, encoding scheme and nature of address indicator);
- Numbering Plan = 0001 (ISDN Numbering Plan, E.164; In Case of Inter-PLMN Signalling, the dialogue initiating entity and dialogue responding entity shall always include its own E.164 Global Title as Calling Party Address);
- the translation type field will be coded "00000000" (Not used);
- Routing indicator = 0 (Routing on Global Title).

If ANSI T1.112 SCCP is used, the format and coding of address parameters carried by the SCCP for that purpose shall comply with ANSI specification T1.112 with the following restrictions:

1) Intra-PLMN addressing

For communication between entities within the same PLMN, a MAP SSN shall always be included in the called and calling party addresses. All other aspects of SCCP addressing are network specific.

2) Inter-PLMN addressing

a) Called Party Address

- SSN indicator = 1 (MAP SSN always included);
- Global title indicator = 0010 (Global title includes translation type);
- the Translation Type (TT) field will be coded as follows:

TT = 9, if IMSI is included;

TT = 14, if MSISDN is included;

Or TT = 10, if Network Element is included. (If TT=10, then Number Portability GTT is not invoked, if TT=14, then Number Portability GTT may be invoked).

- Routing indicator = 0 (Routing on global title);

b) Calling Party Address

- SSN indicator = 1 (MAP SSNs always included);
- Point code indicator = 0;
- Global Title indicator = 0010 (Global title includes translation type);

TT = 9, if IMSI is included;

TT = 14, if MSISDN is included;

Or TT = 10, if Network Element is included. (If TT=10, then Number Portability GTT is not invoked, if TT=14, then Number Portability GTT may be invoked).

Routing indicator = 0 (Routing on Global Title).

If a Global Title translation is required for obtaining routing information, one of the numbering plans E.164, E.212 and E.214 is applicable.

- E.212 numbering plan.

When CCITT or ITU-T SCCP is used, an E.212 number must not be included as Global Title in an SCCP UNITDATA message. The translation of an E.212 number into a Mobile Global Title is applicable in a dialogue initiating VLR, SGSN or GGSN if the routing information towards the HLR is derived from the subscriber's IMSI. In World Zone 1 when ANSI SCCP is used, the IMSI (E.212 number) is used as a Global Title to address the HLR. When an MS moves from one VLR service area to another, the new VLR may derive the address of the previous VLR from the Location Area Identification provided by the MS in the location registration request. The PLMN where the previous VLR is located is identified by the E.212 numbering plan elements of the Location Area Identification, i.e. the Mobile Country Code (MCC) and the Mobile Network Code (MNC).

- E.214 and E.164 numbering plans.

When CCITT or ITU-T SCCP is used, only address information belonging to either E.214 or E.164 numbering plan is allowed to be included as Global Title in the Called and Calling Party Address. In World Zone 1 when ANSI SCCP is used, the IMSI (E.212 number) is used as a Global Title to address the HLR.

If the Calling Party Address associated with the dialogue initiating message contains a Global Title, the sending network entity shall include its E.164 entity number.

When receiving an SCCP UNITDATA message, SCCP shall accept either of the valid numbering plans in the Called Party Address and in the Calling Party Address.

When CCITT or ITU-T SCCP is used and an N-UNITDATA-REQUEST primitive from TC is received, SCCP shall accept an E.164 number or an E.214 number in the Called Address and in the Calling Address. In World Zone 1 when ANSI SCCP is used, the IMSI (E.212 number) is used instead of E.214 number.

The following clauses describe the method of SCCP addressing appropriate for each entity both for the simple intra-PLMN case and where an inter-PLMN communication is required. The following entities are considered:

- the Mobile-services Switching Centre (MSC);
- the Home location Register (HLR);
- the Visitor Location Register (VLR);
- the Gateway Mobile-services Switching Centre (GMSC);

- the GSM Service Control Function (gsmSCF);
- the Interworking Mobile-services Switching Centre (IWMSC);
- ~~— the Shared Inter Working Function (SIWF);~~
- the Serving GPRS Support Node (SGSN);
- the Gateway GPRS Support Node (GGSN);
- the Gateway Mobile Location Centre (GMLC).

***** Next modified section *****

6.1.3.6 The Equipment Identity Register (EIR)

The EIR address is either unique or could be derived from the IMEI. The type of address is not defined.

6.1.3.7 ~~Void~~~~The Shared Inter Working Function (SIWF)~~

~~When the Visited MSC detects a data or fax call and the IWF in the V-MSC cannot handle the required service an SIWF can be invoked. The SIWF is addressed with an E.164 number.~~

6.1.3.8 The Serving GPRS Support Node (SGSN)

The HLR will initiate dialogues towards the SGSN if it is aware that one of its subscribers is in the SGSN serving area. This means that a GPRS location updating has been successfully completed, i.e., the HLR has indicated successful completion of the GPRS location update to the SGSN. The routing information used by the HLR is derived from the E.164 SGSN number received as parameter of the MAP message initiating the GPRS update location procedure. If the SGSN is in the same PLMN as the HLR, the SGSN may be addressed directly by an SPC derived from the E.164 SGSN number. For dialogues via the international PSTN/ISDN signalling network, the presence of the E.164 SGSN number in the Called Party Address is required.

When the GMSC initiates dialogues towards the SGSN the SGSN (MAP) SSN (See 3GPP TS 23.003 [17]) shall be included in the called party address. The routing information used by the GMSC is derived from the E.164 SGSN number received as a parameter of the MAP message initiating the forward short message procedure. If the GMSC does not support the GPRS functionality the MSC (MAP) SSN value shall be included in the called party address.

NOTE: Every VMSC and SGSN shall have uniquely identifiable application using E.164 numbers, for the purpose of SMS over GPRS when the GMSC does not support the GPRS functionality.

***** Next modified section *****

Table 6.1/1

to from	fixed net work	HLR	VLR	MSC	EIR	gsmSCF	SIWF	SGSN	GGSN
fixed network	---	E:GT T:MSISDN	---	---	---	---	---	---	---
Home Location Register	---	---	I:SPC/GT E:GT T:VLR NUMBER	---	---	I:SPC/GT E:GT T:gsmSCF NUMBER	---	I:SPC/GT E:GT T:SGSN NUMBER	I:SPC/GT E:GT T:GGSN NUMBER
Visitor Location Register	---	I:SPC/GT E:GT T:MGT (outside World Zone 1)/MSISDN (World Zone 1)/HLR NUMBER (note)	I:SPC/GT E:GT T:VLR NUMBER	---	---	I:SPC/GT E:GT T:gsmSCF NUMBER	---	---	---
mobile-services switching centre	---	I:SPC/GT E:GT T:MSISDN	I:SPC/GT E:GT T:VLR NUMBER	I:SPC/GT E:GT T:MSC NUMBER	I:SPC/GT E:GT T:EIR NUMBER	I:SPC/GT E:GT T:gsmSCF NUMBER	I:SPC/GT E:GT T:SIWF NUMBER	I:SPC/GT E:GT T:SGSN NUMBER	---
gsm Service Control Function	---	I:SPC/GT E:GT T:MSISDN	---	---	---	---	---	---	---
Shared Inter Working Function	---	---	---	I:SPC/GT E:GT T:MSC NUMBER	---	---	---	---	---
Serving GPRS Support Node	---	I:SPC/GT E:GT T:MGT/ MSISDN/HL R NUMBER	---	I:SPC/GT E:GT T:MSC NUMBER	I:SPC/GT E:GT T:EIR NUMBER	I:SPC/GT E:GT T:gsmSCF NUMBER	---	---	---
Gateway GPRS Support Node	---	I:SPC/GT E:GT T:MGT	---	---	---	---	---	---	---
Gateway Mobile Location Centre	---	I:SPC/GT E:GT T:MSISDN, MGT (outside World Zone 1) or IMSI (World Zone 1) (note)	---	I:SPC/GT E:GT T:MSC NUMBER	---	---	---	I:SPC/GT E:GT T:SGSN NUMBER	---

I: Intra-PLMN.
 E: Extra (Inter)-PLMN.
 T: Address Type.
 GT: Global Title.
 MGT: E.214 Mobile Global Title.
 SPC: Signalling Point Code.
 NOTE: For initiating the location updating procedure and an authentication information retrieval from the HLR preceding it, the VLR has to derive the HLR address from the IMSI of the MS. The result can be an SPC or an E.214 Mobile Global Title if CCITT or ITU-T SCCP is used, or IMSI itself if ANSI SCCP is used (ANSI SCCP is used in World Zone 1). When continuing the established update location dialogue (as with any other dialogue) the VLR must derive the routing information towards the HLR from the Calling Party Address received with the first responding CONTINUE message until the dialogue terminating message is received.
 For transactions invoked by the VLR after update location completion, the VLR may derive the information for addressing the HLR from addresses received in the course of the update location procedure (MSISDN or HLR number) or from the IMSI.
 When invoking the Restore Data procedure and an authentication information retrieval from the HLR preceding it, the VLR must derive the information for addressing the HLR from the address information received in association with the roaming number request. This may be either the IMSI received as a parameter of the MAP message requesting the Roaming Number or the Calling Party Address associated with the MAP message requesting the Roaming Number.
 The gsmSCF shall be addressed using more than one Global Title number. The first Global Title number is used to address a gsmSCF for MAP. The second Global Title number is used to address a gsmSCF for CAP.
 For querying the HLR to obtain the VMSC address to support location services, the GMLC has to derive the HLR address from either the MSISDN or IMSI of the target MS. When using the IMSI, the result can be an SPC or an E.214 Mobile Global Title if CCITT or ITU-T SCCP is used, or IMSI itself if ANSI SCCP is used (ANSI SCCP is used in World Zone 1).

Table 6.1/2

to from		GMLC
fixed network		---
Home Location Register		---
Visitor Location Register		---
Mobile-services Switching Centre		I:SPC/GT E:GT T:MLC Number
gsm Service Control Function		I:SPC/GT E:GT T:MSISDN
Shared-Inter Working Function		---
Serving GPRS Support Node		I:SPC/GT E:GT T:MLC Number
Gateway GPRS Support Node		---
Gateway Mobile Location Centre		
I: Intra-PLMN. E: Extra (Inter)-PLMN. T: Address Type. GT: Global Title. MGT: E.214 Mobile Global Title. SPC: Signalling Point Code.		

***** Next modified section *****

7.6 Definition of parameters

Following is an alphabetic list of parameters used in the common MAP-services in clause 7.3:

Application context name	7.3.1	Refuse reason	7.3.1
Destination address	7.3.1	Release method	7.3.2
Destination reference	7.3.1	Responding address	7.3.1
Diagnostic information	7.3.4	Result	7.3.1
Originating address	7.3.1	Source	7.3.5
Originating reference	7.3.1	Specific information	7.3.1/7.3.2/7.3.4
Problem diagnostic	7.3.6	User reason	7.3.4
Provider reason	7.3.5		

Following is an alphabetic list of parameters contained in this clause:

Absent Subscriber Diagnostic SM	7.6.8.9	Location Information for GPRS	7.6.2.30a
Access connection status	7.6.9.3	Location update type	7.6.9.6
Access signalling information	7.6.9.5	Long Forwarded-to Number	7.6.2.22A
Additional Absent Subscriber Diagnostic SM	7.6.8.12	Long FTN Supported	7.6.2.22B
Additional LCS Capability Sets	7.6.11.25		
Additional Location Estimate	7.6.11.21	Lower Layer Compatibility	7.6.3.42
Additional number	7.6.2.46	LSA Information	7.6.3.56
Additional signal info	7.6.9.10	LSA Information Withdraw	7.6.3.58
Additional SM Delivery Outcome	7.6.8.11	MC Information	7.6.4.48
Age Indicator	7.6.3.72	MC Subscription Data	7.6.4.47
Alert Reason	7.6.8.8	Mobile Not Reachable Reason	7.6.3.51
Alert Reason Indicator	7.6.8.10	Modification request for CSI	7.6.3.81
Alerting Pattern	7.6.3.44	Modification request for SS Information	7.6.3.82
All GPRS Data	7.6.3.53	More Messages To Send	7.6.8.7
All Information Sent	7.6.1.5	MS ISDN	7.6.2.17
AN-apdu	7.6.9.1	MSC number	7.6.2.11
APN	7.6.2.42	MSISdn-Alert	7.6.2.29
Authentication set list	7.6.7.1	Multicall Bearer Information	7.6.2.52
B-subscriber Address	7.6.2.36	Multiple Bearer Requested	7.6.2.53
B subscriber Number	7.6.2.48	Multiple Bearer Not Supported	7.6.2.54
B subscriber subaddress	7.6.2.49	MWD status	7.6.8.3
Basic Service Group	7.6.4.40	NbrUser	7.6.4.45
Bearer service	7.6.4.38	Network Access Mode	7.6.3.50
BSSMAP Service Handover	7.6.6.5	Network node number	7.6.2.43
BSSMAP Service Handover List	7.6.6.5A	Network resources	7.6.10.1
Call Barring Data	7.6.3.83	Network signal information	7.6.9.8
Call barring feature	7.6.4.19	New password	7.6.4.20
Call barring information	7.6.4.18	No reply condition timer	7.6.4.7
Call barring support indicator	7.6.3.92	North American Equal Accesspreferred Carrier Id	7.6.2.34
Call Direction	7.6.5.8	Number Portability Status	7.6.5.14
Call Forwarding Data	7.6.3.84	ODB Data	7.6.3.85
Call Info	7.6.9.9	ODB General Data	7.6.3.9
Call reference	7.6.5.1	ODB HPLMN Specific Data	7.6.3.10
Call Termination Indicator	7.6.3.67	OMC Id	7.6.2.18
Called number	7.6.2.24	Originally dialled number	7.6.2.26
Calling number	7.6.2.25	Originating entity number	7.6.2.10
CAMEL Subscription Info	7.6.3.78	Override Category	7.6.4.4
CAMEL Subscription Info Withdraw	7.6.3.38	P-TMSI	7.6.2.47
Cancellation Type	7.6.3.52	PDP-Address	7.6.2.45
Category	7.6.3.1	PDP-Context identifier	7.6.3.55
CCBS Feature	7.6.5.8	PDP-Type	7.6.2.44
CCBS Request State	7.6.4.49	Positioning Data	7.6.11.11A
Channel Type	7.6.5.9	Pre-paging supported	7.6.5.15
Chosen Channel	7.6.5.10	Previous location area Id	7.6.2.4

Chosen Radio Resource Information	7.6.6.10B	Protocol Id	7.6.9.7
Ciphering mode	7.6.7.7	Provider error	7.6.1.3
Cksn	7.6.7.5	PS LCS Not Supported by UE	7.6.11.10
CLI Restriction	7.6.4.5	QoS-Subscribed	7.6.3.47
CM service type	7.6.9.2	Radio Resource Information	7.6.6.10
Complete Data List Included	7.6.3.54	Radio Resource List	7.6.6.10A
CS Allocation Retention priority	7.6.3.87	RANAP Service Handover	7.6.6.6
CS LCS Not Supported by UE	7.6.11.9	Rand	7.6.7.2
CUG feature	7.6.3.26	LCS-Reference Number	7.6.11.23
CUG index	7.6.3.25	Regional Subscription Data	7.6.3.11
CUG info	7.6.3.22	Regional Subscription Response	7.6.3.12
CUG interlock	7.6.3.24	Relocation Number List	7.6.2.19A
CUG Outgoing Access indicator	7.6.3.8	Requested Info	7.6.3.31
CUG subscription	7.6.3.23	Requested Subscription Info	7.6.3.86
CUG Subscription Flag	7.6.3.37	Roaming number	7.6.2.19
Current location area Id	7.6.2.6	Roaming Restricted In SGSN Due To Unsupported Feature	7.6.3.49
Current password	7.6.4.21	Roaming Restriction Due To Unsupported Feature	7.6.3.13
Deferred MT-LR Data	7.6.11.3	Current Security Context	7.6.7.8
Deferred MT-LR Response Indicator	7.6.11.2	Selected RAB ID	7.6.2.56
eMLPP Information	7.6.4.41	Service centre address	7.6.2.27
Encryption Information	7.6.6.9	Serving Cell Id	7.6.2.37
Equipment status	7.6.3.2	SGSN address	7.6.2.39
Extensible Basic Service Group	7.6.3.5	SGSN CAMEL Subscription Info	7.6.3.75
Extensible Bearer service	7.6.3.3	SGSN number	7.6.2.38
Extensible Call barring feature	7.6.3.21	SIWF Number	7.6.2.35
Extensible Call barring information	7.6.3.20	SoLSA Support Indicator	7.6.3.57
Extensible Call barring information for CSE	7.6.3.79	SM Delivery Outcome	7.6.8.6
Extensible Forwarding feature	7.6.3.16	SM-RP-DA	7.6.8.1
Extensible Forwarding info	7.6.3.15	SM-RP-MTI	7.6.8.16
Extensible Forwarding information for CSE	7.6.3.80	SM-RP-OA	7.6.8.2
Extensible Forwarding Options	7.6.3.18	SM-RP-PRI	7.6.8.5
Extensible No reply condition timer	7.6.3.19	SM-RP-SMEA	7.6.8.17
Extensible QoS-Subscribed	7.6.3.74	SM-RP-UI	7.6.8.4
Extensible SS-Data	7.6.3.29	Sres	7.6.7.3
Extensible SS-Info	7.6.3.14	SS-Code	7.6.4.1
Extensible SS-Status	7.6.3.17	SS-Data	7.6.4.3
Extensible Teleservice	7.6.3.4	SS-Event	7.6.4.42
External Signal Information	7.6.9.4	SS-Event-Data	7.6.4.43
Failure Cause	7.6.7.9	SS-Info	7.6.4.24
Forwarded-to number	7.6.2.22	SS-Status	7.6.4.2
Forwarded-to subaddress	7.6.2.23	Stored location area Id	7.6.2.5
Forwarding feature	7.6.4.16	Subscriber State	7.6.3.30
Forwarding information	7.6.4.15	Subscriber Status	7.6.3.7
Forwarding Options	7.6.4.6	Super-Charger Supported in HLR	7.6.3.70
GERAN Classmark	7.6.6.4	Super-Charger Supported in Serving Network Entity	7.6.3.71
GGSN address	7.6.2.40	Offered Camel4 CSIs	7.6.3.36D
GGSN number	7.6.2.41	Offered Camel4 CSIs in interrogating node	7.6.3.36E
GMSC CAMEL Subscription Info	7.6.3.34	Offered Camel4 CSIs in VMSC	7.6.3.36F
GPRS enhancements support indicator	7.6.3.73	Offered Camel4 CSIs in VLR	7.6.3.36B
GPRS Node Indicator	7.6.8.14	Offered Camel4 CSIs in SGSN	7.6.3.36C
GPRS Subscription Data	7.6.3.46	Offered Camel4 Functionalities	7.6.3.36G
GPRS Subscription Data Withdraw	7.6.3.45	Supported CAMEL Phases	7.6.3.36H
GPRS Support Indicator	7.6.8.15	Supported CAMEL Phases in VLR	7.6.3.36
Group Id	7.6.2.33	Supported CAMEL Phases in SGSN	7.6.3.36A
GSM bearer capability	7.6.3.6	Supported CAMEL Phases in interrogating node	7.6.3.36I
gsmSCF Address	7.6.2.58	Supported GAD Shapes	7.6.11.20
gsmSCF Initiated Call	7.6.3.c	Supported LCS Capability Sets	7.6.11.17
Guidance information	7.6.4.22	Suppress Incoming Call Barring	7.6.3.b
Handover number	7.6.2.21	Suppress T-CSI	7.6.3.33
High Layer Compatibility	7.6.3.43	Suppress VT-CSI	7.6.3.a
		Suppression of Announcement	7.6.3.32

HLR Id	7.6.2.15	Target cell Id	7.6.2.8
HLR number	7.6.2.13	Target location area Id	7.6.2.7
HO-Number Not Required	7.6.6.7	Target RNC Id	7.6.2.8A
IMEI	7.6.2.3	Target MSC number	7.6.2.12
IMSI	7.6.2.1	Teleservice	7.6.4.39
Integrity Protection Information	7.6.6.8	TMSI	7.6.2.2
Inter CUG options	7.6.3.27	Trace reference	7.6.10.2
Intra CUG restrictions	7.6.3.28	Trace type	7.6.10.3
Invoke Id	7.6.1.1	User error	7.6.1.4
ISDN Bearer Capability	7.6.3.41	USSD Data Coding Scheme	7.6.4.36
IST Alert Timer	7.6.3.66	USSD String	7.6.4.37
IST Information Withdrawn	7.6.3.68	UU Data	7.6.5.12
IST Support Indicator	7.6.3.69	UUS CF Interaction	7.6.5.13
LCS Codeword	7.6.11.18	VBS Data	7.6.3.40
LCS Information	7.6.3.60	VGCS Data	7.6.3.39
LCS Service Type Id	7.6.11.15	VLR CAMEL Subscription Info	7.6.3.35
Kc	7.6.7.4	VLR number	7.6.2.14
Linked Id	7.6.1.2	VPLMN address allowed	7.6.3.48
LMSI	7.6.2.16	Zone Code	7.6.2.28
Location Information	7.6.2.30		

***** Next modified section *****

7.6.2.34 North American Equal Access preferred Carrier Id

This parameter refers to the carrier identity preferred by the subscriber for calls requiring routing via an inter-exchange carrier. This identity is used at:

- outgoing calls: when the subscriber does not specify at call set-up a carrier identity;
- forwarded calls: when a call is forwarded by the subscriber;
- incoming calls: applicable to the roaming leg of the call.

7.6.2.35 ~~SIWFS Number~~Void

~~This parameter refers to the number used for routing a call between the MSC and the SIWFS (used by ISUP).~~

7.6.2.36 ~~B-subscriber address~~Void

~~This parameter refers to the address used by the SIWFS to route the outgoing call from the SIWFS to either the B-subscriber in case of the non-loop method or back to the VMSC in case of the loop method.~~

7.6.2.37 Serving cell Id

This parameter indicates the cell currently being used by the served subscriber.

***** Next modified section *****

7.6.5.7F VT-IM-CSI

This parameter identifies the subscriber as having terminating IP Multimedia Core Network CAMEL services as defined in 3GPP TS 23.278.

7.6.5.8 ~~Call Direction~~Void

~~This parameter is used to indicate the direction of the call.~~

7.6.5.9 ~~Channel Type~~Void

~~This parameter is the result of a Channel Mode Modification for TS 61/62. It contains the changed Air Interface User Rate. The information is sent from the SIWFS to the MSC to assign the correct radio resource. This parameter is defined in 3GPP TS 48.008 [49].~~

7.6.5.10 ~~Chosen Channel~~Void

~~This parameter is sent from the MSC to the SIWFS to adjust the interworking unit to the assigned radio resources. This parameter is defined in 3GPP TS 48.008 [49].~~

7.6.5.11 CCBS Feature

This parameter corresponds to the 'CCBS Description' parameter in 3GPP TS 23.093. It refers to the necessary set of information required in order to characterise a certain CCBS request. The parameter may contain the following information:

- CCBS Index (see 3GPP TS 23.093 for the use of this parameter);
- B-subscriber number (see clause 7.6.2.48);
- B-subscriber subaddress (see clause 7.6.2.49);
- Basic Service Group Code (see clause 7.6.4.40).

***** Next modified section *****

10.8 ~~MAP_Provide_SIWFS_Number~~Void

~~10.8.1 Definition~~

~~This service is used between an MSC and SIWFS. It is invoked by an MSC receiving an incoming call (call to or from MS) to request the SIWFS to allocate IWU resources. The service is defined in GSM 03.54.~~

~~This is a confirmed service using the primitives described in table 10.8/1.~~

~~10.8.2 Service primitive~~

Table 10.8/1: ~~MAP_Provide_SIWFS_Number~~ service

Parameter name	Request	Indication	Response	Confirm
Invoke-ID	M	M(⇒)	M(⇒)	M(⇒)
GSM-Bearer-Capability	M	M(⇒)		
ISDN-Bearer-Capability	M	M(⇒)		
Call-Direction	M	M(⇒)		
B-subscriber-address	M	M(⇒)		
Chosen-Channel	M	M(⇒)		
Lower-Layer-Compatibility	C	C(⇒)		
High-Layer-Compatibility	C	C(⇒)		
SIWFS-number			C	C(⇒)
User-error			C	C(⇒)
Provider-error				C

10.8.3 Parameter use

See clause 7.6 for a definition of the parameters used, in addition to the following:

GSM Bearer Capability

This information is the result from the negotiation with the mobile station. The information is sent from the MSC to the SIWFS to allocate the correct IWU.

ISDN Bearer Capability

This parameter refers to the ISDN Bearer Capability information element. For the MTC this parameter is received in the ISUP User Service Information parameter. For the MOC call this parameter is mapped from the GSM BC parameter according to 3GPP TS 29.007 [56]. The parameter is used by the SIWFS to route the call and to allocate the outgoing circuit.

Call Direction

This parameter indicates the direction of the call (mobile originated or mobile terminated) at call set-up.

B-subscriber address

This parameter is sent from the MSC to the SIWFS to inform the SIWFS where to route the call i.e. where to send the IAM. If the loop method is used this parameter will indicate the address to the VMSC. This address is allocated by the VMSC in the same way as a MSRN and is used to correlate the incoming IAM to the corresponding MAP dialogue. If the non-loop method is used this parameter will indicate the address to the B-subscriber.

Chosen Channel

This parameter is sent from the MSC to the SIWFS to adjust the interworking unit to the assigned radio resources. This parameter is defined in 3GPP TS 48.008 [49].

Lower Layer Compatibility

This parameter is sent from the MSC to the SIWF to allow the interworking unit to perform a compatibility check. This parameter is handled as specified in 3GPP TS 29.007 [56]. This parameter is defined in 3GPP TS 24.008 [35].

High Layer Compatibility

This parameter is sent from the MSC to the SIWF to allow the interworking unit to perform a compatibility check. This parameter is handled as specified in 3GPP TS 29.007 [56]. This parameter is defined in 3GPP TS 24.008 [35].

SIWFS number

This parameter is sent from the SIWFS to the MSC. This address is used by the visited MSC to route the call, i.e. the IAM to the SIWFS (similar to MSRN) and will be used by the SIWFS to correlate the incoming IAM to the corresponding MAP message. This parameter must always be sent from the SIWFS when a successful allocation of SIWFS resources has been made.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Resource limitation;
- Facility Not Supported;
- Unexpected Data Value;
- System Failure.

See clause 7.6 for a definition of these reasons.

Provider error

These are defined in clause 7.6.

10.9 MAP_SIWFS_Signalling_ModifyVoid

10.9.1 Definition

This service is used to transport signalling information between an MSC and an SIWFS in the case of a request to modify the configuration (e.g. HSCSD). It is invoked either by an MSC or by the SIWFS. The service is defined in GSM 03.54.

This is a confirmed service using the primitives described in table 10.9/1.

10.9.2 Service primitive

Table 10.9/1: MAP_SIWFS_Signalling_Modify service

Parameter name	Request	Indication	Response	Confirm
Invoke-ID	M	M(=)	M(=)	M(=)
Channel Type	C	C(=)		
Chosen Channel	C	C(=)	C(=)	C(=)
User error			C	C(=)
Provider error				Ø

10.9.3 Parameter use

See clause 7.6 for a definition of the parameter used, in addition to the following.

Channel Type

This parameter is the result of a Channel Mode Modification for TS61/62. It contains the changed Air Interface User Rate. The information is sent from the SIWFS to the MSC to assign the correct radio resource. This parameter is defined in 3GPP TS 48.008 [49].

Chosen Channel

This parameter is sent from the MSC to the SIWFS to adjust the interworking unit to the assigned radio resources. This parameter is defined in 3GPP TS 48.008 [49].

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Resource limitation;
- Facility Not Supported;
- Data Missing;
- Unexpected Data Value;
- System Failure.

See clause 7.6 for a definition of these reasons.

Provider error

These are defined in clause 7.6.

***** Next modified section *****

Table 16.2/1: Mapping of MAP specific services on to MAP operations

MAP-SERVICE	operation
-------------	-----------

MAP-SUPPLEMENTARY-SERVICE-INVOCATION-NOTIFICATION	ss-Invocation-Notification
MAP-UNSTRUCTURED-SS-NOTIFY	unstructuredSS-Notify
MAP-UNSTRUCTURED-SS-REQUEST	unstructuredSS-Request
MAP-UPDATE-GPRS-LOCATION	updateGprsLocation
MAP-UPDATE-LOCATION	updateLocation
MAP-NOTE-MM-EVENT	NoteMM-Event

***** Next modified section *****

17.1.6 Application Contexts

The following informative table lists the latest versions of the Application Contexts used in this specification, with the operations used by them and, where applicable, whether or not the operation description is exactly the same as for previous versions. Information in 17.6 & 17.7 relates only to the ACs in this table.

AC Name	AC Version	Operations Used	Comments
locationCancellationContext	v3	cancelLocation	
equipmentMngtContext	V3	checkIMEI	
imsiRetrievalContext	v2	sendIMSI	
infoRetrievalContext	v3	sendAuthenticationInfo	
interVlrInfoRetrievalContext	v3	sendIdentification	
handoverControlContext	v3	prepareHandover forwardAccessSignalling sendEndSignal processAccessSignalling prepareSubsequentHandover	the syntax of this operation has been extended in comparison with release 98 version
mwdMngtContext	v3	readyForSM	
msPurgingContext	v3	purgeMS	
shortMsgAlertContext	v2	alertServiceCentre	
resetContext	v2	reset	
networkUnstructuredSsContext	v2	processUnstructuredSS-Request unstructuredSS-Request unstructuredSS-Notify	
tracingContext	v3	activateTraceMode deactivateTraceMode	
networkFunctionalSsContext	v2	registerSS eraseSS activateSS deactivateSS registerPassword interrogateSS getPassword	
shortMsgMO-RelayContext	v3	mo-forwardSM	
shortMsgMT-RelayContext	v3	mt-forwardSM	
shortMsgGatewayContext	v3	sendRoutingInfoForSM reportSM-DeliveryStatus InformServiceCentre	the syntax of this operation has been extended in comparison with release 96 version
networkLocUpContext	v3	updateLocation forwardCheckSs-Indication restoreData insertSubscriberData activateTraceMode	the syntax is the same in v1 & v2
gprsLocationUpdateContext	v3	updateGprsLocation insertSubscriberData activateTraceMode	
subscriberDataMngtContext	v3	insertSubscriberData deleteSubscriberData	
roamingNumberEnquiryContext	v3	provideRoamingNumber	

AC Name	AC Version	Operations Used	Comments
locationInfoRetrievalContext	v3	sendRoutingInfo	
gprsNotifyContext	v3	noteMsPresentForGprs	
gprsLocationInfoRetrievalContext	v4	sendRoutingInfoForGprs	
failureReportContext	v3	failureReport	
callControlTransferContext	v4	resumeCallHandling	
subscriberInfoEnquiryContext	v3	provideSubscriberInfo	
anyTimeEnquiryContext	v3	anyTimeInterrogation	
anyTimeInfoHandlingContext	v3	anyTimeSubscriptionInterrogation anyTimeModification	
ss-InvocationNotificationContext	v3	ss-InvocationNotification	
sIWFSAllocationContext	v3	provideSIWFSNumber sIWFSsignallingModify	
groupCallControlContext	v3	prepareGroupCall processGroupCallSignalling forwardGroupCallSignalling sendGroupCallEndSignal	
reportingContext	v3	setReportingState statusReport remoteUserFree	
callCompletionContext	v3	registerCC-Entry eraseCC-Entry	
istAlertingContext	v3	istAlert	
ImmediateTerminationContext	v3	istCommand	
locationSvcEnquiryContext	v3	provideSubscriberLocation subscriberLocationReport	
locationSvcGatewayContext	v3	sendRoutingInfoForLCS	
mm-EventReportingContext	v3	noteMM-Event	
subscriberDataModificationNotificationContext	v3	noteSubscriberDataModified	
authenticationFailureReportContext	v3	authenticationFailureReport	
secureTransportHandlingContext	v3	secureTransportClass1 secureTransportClass2 secureTransportClass3 secureTransportClass4	

***** Next modified section *****

17.2.2.32 Group Call Control

This operation package includes the operations required for group call and broadcast call procedures between MSCs.

```

groupCallControlPackage-v3 OPERATION-PACKAGE ::= {
  -- Supplier is relay MSC if Consumer is anchor MSC
  CONSUMER INVOKES {
    prepareGroupCall |
    forwardGroupCallSignalling}
  SUPPLIER INVOKES {
    sendGroupCallEndSignal |
    processGroupCallSignalling} }

```

This package is v3 only.

17.2.2.33 ~~Provide SIWFS number~~Void

~~This operation package includes the operations required between VMSC and SIWF for requesting resources from an SIWF.~~

```
provideSIWFSNumberPackage-v3 OPERATION-PACKAGE ::= {  
    -- Supplier is SIWF if Consumer is VMSC  
    CONSUMER INVOKES {  
        provideSIWFSNumber }  
}
```

~~This package is v3 only.~~

17.2.2.34 ~~SIWFS Signalling Modify~~Void

~~This operation package includes the operations required for the modification of the resources in an SIWF between the VMSC and SIWF.~~

```
siwfs-SignallingModifyPackage-v3 OPERATION-PACKAGE ::= {  
    -- Supplier is SIWF if Consumer is VMSC  
    CONSUMER INVOKES {  
        siwfs-SignallingModify }  
}
```

~~This package is v3 only.~~

17.2.2.35 Gprs location updating

This operation package includes the operations required for the gprs location management procedures between HLR and SGSN.

```
gprsLocationUpdatingPackage-v3 OPERATION-PACKAGE ::= {  
    -- Supplier is HLR if Consumer is SGSN  
    CONSUMER INVOKES {  
        updateGprsLocation }  
}
```

This package is v3 only.

***** Next modified section *****

17.3.2.30 Group Call Control

This application context is used between anchor MSC and relay MSC for group call and broadcast call procedures.

```
groupCallControlContext-v3 APPLICATION-CONTEXT ::= {  
    -- Responder is relay MSC if Initiator is anchor MSC  
    INITIATOR CONSUMER OF {  
        groupCallControlPackage-v3 }  
    ID {map-ac groupCallControl(31) version3(3)} }  
}
```

This application-context is v3 only.

17.3.2.31 ~~Provide SIWFS Number~~Void

~~This application context is used for activation or modification of SIWF resources.~~

```
siwfsAllocationContext-v3 APPLICATION-CONTEXT ::= {  
    -- Responder is SIWF if Initiator is VMSC  
    INITIATOR CONSUMER OF {  
        provideSIWFSNumberPackage-v3 }  
        siwfs-SignallingModifyPackage-v3 }  
    ID {map-ac siwfsAllocation-(12) version3(3)} }  
}
```

~~This application context is v3 only.~~

17.3.2.32 Gprs Location Updating

This application context is used between HLR and SGSN for gprs location updating procedures.

```
gprsLocationUpdateContext-v3 APPLICATION-CONTEXT ::= {
  -- Responder is HLR if Initiator is SGSN
  INITIATOR CONSUMER OF {
    gprsLocationUpdatingPackage-v3}
  RESPONDER CONSUMER OF {
    subscriberDataMngtPackage-v3 |
    tracingPackage-v3}
  ID {map-ac gprsLocationUpdate(32) version3(3)} }
```

This application-context is v3 only.

***** Next modified section *****

17.3.3 ASN.1 Module for application-context-names

The following ASN.1 module summarises the application-context-name assigned to MAP application-contexts.

```
MAP-ApplicationContexts {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-ApplicationContexts (2) version9 (9)}
```

DEFINITIONS

::=

BEGIN

-- EXPORTS everything

IMPORTS

gsm-NetworkId,
ac-Id

FROM MobileDomainDefinitions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
mobileDomainDefinitions (0) version1 (1)}

;

-- application-context-names

. . .
<Unchanged ASN.1>
. . .

```
ss-InvocationNotificationContext-v3 OBJECT IDENTIFIER ::=
  {map-ac ss-InvocationNotification(36) version3(3)}
```

```
siWFSAAllocationContext-v3 OBJECT IDENTIFIER ::=
  {map-ac siWFSAAllocation(12) version3(3)}
```

```
groupCallControlContext-v3 OBJECT IDENTIFIER ::=
  {map-ac groupCallControl(31) version3(3)}
```

. . .
<Unchanged ASN.1>
. . .

-- The following Object Identifiers are reserved for application-contexts
-- existing in previous versions of the protocol

AC Name & Version	Object Identifier	
-- networkLocUpContext-v1	map-ac networkLocUp (1)	version1 (1)
-- networkLocUpContext-v2	map-ac networkLocUp (1)	version2 (2)
-- locationCancellationContext-v1	map-ac locationCancellation (2)	version1 (1)
-- locationCancellationContext-v2	map-ac locationCancellation (2)	version2 (2)
-- roamingNumberEnquiryContext-v1	map-ac roamingNumberEnquiry (3)	version1 (1)
-- roamingNumberEnquiryContext-v2	map-ac roamingNumberEnquiry (3)	version2 (2)
-- locationInfoRetrievalContext-v1	map-ac locationInfoRetrieval (5)	version1 (1)
-- locationInfoRetrievalContext-v2	map-ac locationInfoRetrieval (5)	version2 (2)
-- resetContext-v1	map-ac reset (10)	version1 (1)
-- handoverControlContext-v1	map-ac handoverControl (11)	version1 (1)
-- handoverControlContext-v2	map-ac handoverControl (11)	version2 (2)
-- siWFSAallocationContext-v3	map-ac siWFSAallocation (12)	version3 (3)
-- equipmentMngtContext-v1	map-ac equipmentMngt (13)	version1 (1)
-- equipmentMngtContext-v2	map-ac equipmentMngt (13)	version2 (2)
-- infoRetrievalContext-v1	map-ac infoRetrieval (14)	version1 (1)
-- infoRetrievalContext-v2	map-ac infoRetrieval (14)	version2 (2)
-- interVlInfoRetrievalContext-v2	map-ac interVlInfoRetrieval (15)	version2 (2)
-- subscriberDataMngtContext-v1	map-ac subscriberDataMngt (16)	version1 (1)
-- subscriberDataMngtContext-v2	map-ac subscriberDataMngt (16)	version2 (2)
-- tracingContext-v1	map-ac tracing (17)	version1 (1)
-- tracingContext-v2	map-ac tracing (17)	version2 (2)
-- networkFunctionalSsContext-v1	map-ac networkFunctionalSs (18)	version1 (1)
-- shortMsgGatewayContext-v1	map-ac shortMsgGateway (20)	version1 (1)
-- shortMsgGatewayContext-v2	map-ac shortMsgGateway (20)	version2 (2)
-- shortMsgRelayContext-v1	map-ac shortMsgRelay (21)	version1 (1)
-- shortMsgAlertContext-v1	map-ac shortMsgAlert (23)	version1 (1)
-- mwdMngtContext-v1	map-ac mwdMngt (24)	version1 (1)
-- mwdMngtContext-v2	map-ac mwdMngt (24)	version2 (2)
-- shortMsgMT-RelayContext-v2	map-ac shortMsgMT-Relay (25)	version2 (2)
-- msPurgingContext-v2	map-ac msPurging (27)	version2 (2)
-- callControlTransferContext-v3	map-ac callControlTransferContext (6)	version3 (3)
-- gprsLocationInfoRetrievalContext-v3	map-ac gprsLocationInfoRetrievalContext (33)	version3 (3)

***** Next modified section *****

17.5 MAP operation and error codes

```

MAP-Protocol {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-Protocol (4) version9 (9)}

DEFINITIONS

 ::=

BEGIN

IMPORTS
    OPERATION
FROM Remote-Operations-Information-Objects {
    joint-iso-itu-t remote-operations(4) informationObjects(5) version1(0)}

    updateLocation,
    cancelLocation,
    purgeMS,
    sendIdentification,
    updateGprsLocation,
    prepareHandover,
    sendEndSignal,
    processAccessSignalling,
    forwardAccessSignalling,
    prepareSubsequentHandover,
    sendAuthenticationInfo,
    authenticationFailureReport,
    checkIMEI,
    insertSubscriberData,
    deleteSubscriberData,
    reset,
    forwardCheckSS-Indication,
    restoreData,
    provideSubscriberInfo,
    anyTimeInterrogation,

```



```

anyTimeSubscriptionInterrogation,
anyTimeModification,
sendRoutingInfoForGprs,
failureReport,
noteMsPresentForGprs,
noteMM-Event,
noteSubscriberDataModified

```

```

FROM MAP-MobileServiceOperations {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-MobileServiceOperations (5)
  version9 (9)}

```

```

activateTraceMode,
deactivateTraceMode,
sendIMSI

```

```

FROM MAP-OperationAndMaintenanceOperations {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-OperationAndMaintenanceOperations (6)
  version9 (9)}

```

```

sendRoutingInfo,
provideRoamingNumber,
resumeCallHandling,
provideSIWFSPNumber,
siwfs-SignallingModify,
setReportingState,
statusReport,
remoteUserFree,
ist-Alert,
ist-Command

```

```

FROM MAP-CallHandlingOperations {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-CallHandlingOperations (7)
  version9 (9)}

```

```

. . .
<Unchanged ASN.1>
. . .

```

```

;
Supported-MAP-Operations OPERATION ::= {updateLocation | cancelLocation | purgeMS |
  sendIdentification | updateGprsLocation | prepareHandover | sendEndSignal |
  processAccessSignalling | forwardAccessSignalling | prepareSubsequentHandover |
  sendAuthenticationInfo | authenticationFailureReport | checkIMEI | insertSubscriberData |
  deleteSubscriberData | reset | forwardCheckSS-Indication | restoreData | provideSubscriberInfo |
  anyTimeInterrogation | anyTimeSubscriptionInterrogation | anyTimeModification |
  sendRoutingInfoForGprs | failureReport | noteMsPresentForGprs | noteMM-Event |
  noteSubscriberDataModified | activateTraceMode | deactivateTraceMode | sendIMSI |
  sendRoutingInfo | provideRoamingNumber | resumeCallHandling | provideSIWFSPNumber |
siwfs-SignallingModify | setReportingState | statusReport | remoteUserFree | ist-Alert |
  ist-Command | registerSS | eraseSS | activateSS | deactivateSS | interrogateSS |
  processUnstructuredSS-Request | unstructuredSS-Request | unstructuredSS-Notify |
  registerPassword | getPassword | ss-InvocationNotification | registerCC-Entry | eraseCC-Entry |
  sendRoutingInfoForSM | mo-ForwardSM | mt-ForwardSM | reportSM-DeliveryStatus |
  alertServiceCentre | informServiceCentre | readyForSM | prepareGroupCall |
  processGroupCallSignalling | forwardGroupCallSignalling | sendGroupCallEndSignal |
  provideSubscriberLocation | sendRoutingInfoForLCS | subscriberLocationReport |
  secureTransportClass1 | secureTransportClass2 | secureTransportClass3 | secureTransportClass4}

```

```

-- The following operation codes are reserved for operations
-- existing in previous versions of the protocol

```

Operation Name	AC used	Oper. Code
-- sendParameters	map-ac infoRetrieval (14) version1 (1)	local:9
-- processUnstructuredSS-Data	map-ac networkFunctionalSs (18) version1 (1)	local:19
-- performHandover	map-ac handoverControl (11) version1 (1)	local:28
-- performSubsequentHandover	map-ac handoverControl (11) version1 (1)	local:30
-- provideSIWFSPNumber	map-ac siWFSAAllocation (12) version3 (3)	local:31
-- siwfs-SignallingModify	map-ac siWFSAAllocation (12) version3 (3)	local:32
-- noteInternalHandover	map-ac handoverControl (11) version1 (1)	local:35
-- noteSubscriberPresent	map-ac mwdMngt (24) version1 (1)	local:48
-- alertServiceCentreWithoutResult	map-ac shortMsgAlert (23) version1 (1)	local:49
-- traceSubscriberActivity	map-ac handoverControl (11) version1 (1)	local:52
-- beginSubscriberActivity	map-ac networkFunctionalSs (18) version1 (1)	local:54

-- The following error codes are reserved for errors
 -- existing in previous versions of the protocol

Error Name	AC used	Error Code
-- unknownBaseStation	map-ac handoverControl (11) version1 (1)	local:2
-- invalidTargetBaseStation	map-ac handoverControl (11) version1 (1)	local:23
-- noRadioResourceAvailable	map-ac handoverControl (11) version1 (1)	local:24

END

***** Next modified section *****

17.6.3 Call Handling Operations

```
MAP-CallHandlingOperations {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-CallHandlingOperations (7)
  version9 (9)}

DEFINITIONS

 ::=

BEGIN

EXPORTS
  sendRoutingInfo,
  provideRoamingNumber,
  resumeCallHandling,
provideSIWFNumber,
siwfs-SignallingModify,
  setReportingState,
  statusReport,
  remoteUserFree,
  ist-Alert,
  ist-Command
;

IMPORTS
  OPERATION
FROM Remote-Operations-Information-Objects {
  joint-iso-itu-t remote-operations(4)
  informationObjects(5) version1(0)}

. . .
<Unchanged ASN.1>
. . .

  SendRoutingInfoArg,
  SendRoutingInfoRes,
  ProvideRoamingNumberArg,
  ProvideRoamingNumberRes,
  ResumeCallHandlingArg,
  ResumeCallHandlingRes,
ProvideSIWFNumberArg,
ProvideSIWFNumberRes,
SIWFSSignallingModifyArg,
SIWFSSignallingModifyRes,
  SetReportingStateArg,
  SetReportingStateRes,
  StatusReportArg,
  StatusReportRes,
  RemoteUserFreeArg,
  RemoteUserFreeRes,
  IST-AlertArg,
  IST-AlertRes,
  IST-CommandArg,
  IST-CommandRes
FROM MAP-CH-DataTypes {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-CH-DataTypes (13) version9 (9)}

. . .
```

<Unchanged ASN.1>

. . .

```
resumeCallHandling OPERATION ::= { --Timer m
  ARGUMENT
    ResumeCallHandlingArg
  RESULT
    ResumeCallHandlingRes
    -- optional
  ERRORS {
    forwardingFailed |
    or-NotAllowed |
    unexpectedDataValue |
    dataMissing }
  CODE local:6 }
```

```
provideSIWFSNumber OPERATION ::= { --Timer m
  ARGUMENT
    ProvideSIWFSNumberArg
  RESULT
    ProvideSIWFSNumberRes
  ERRORS {
    resourceLimitation |
    dataMissing |
    unexpectedDataValue |
    systemFailure}
  CODE local:31 }
```

```
siwfs-SignallingModify OPERATION ::= { --Timer m
  ARGUMENT
    SIWFSSignallingModifyArg
  RESULT
    SIWFSSignallingModifyRes
    optional
  ERRORS {
    resourceLimitation |
    dataMissing |
    unexpectedDataValue |
    systemFailure}
  CODE local:32 }
```

```
setReportingState OPERATION ::= { --Timer m
  ARGUMENT
    SetReportingStateArg
  RESULT
    SetReportingStateRes
    -- optional
  ERRORS {
    systemFailure |
    unidentifiedSubscriber |
    unexpectedDataValue |
    dataMissing |
    resourceLimitation |
    facilityNotSupported}
  CODE local:73 }
```

<Unchanged ASN.1>

. . .

***** Next modified section *****

17.7.3 Call handling data types

```
MAP-CH-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CH-DataTypes (13) version9 (9)}
```

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```
    SendRoutingInfoArg,
    SendRoutingInfoRes,
    ProvideRoamingNumberArg,
    ProvideRoamingNumberRes,
    ResumeCallHandlingArg,
    ResumeCallHandlingRes,
    NumberOfForwarding,
    SuppressionOfAnnouncement,
    CallReferenceNumber,
ProvideSIWFSNumberArg,
ProvideSIWFSNumberRes,
SIWFSSignallingModifyArg,
SIWFSSignallingModifyRes,
    SetReportingStateArg,
    SetReportingStateRes,
    StatusReportArg,
    StatusReportRes,
    RemoteUserFreeArg,
    RemoteUserFreeRes,
    IST-AlertArg,
    IST-AlertRes,
    IST-CommandArg,
    IST-CommandRes
;
```

```
. . .
<Unchanged ASN.1>
. . .
```

GmscCamelSubscriptionInfo ::= SEQUENCE {			
t-CSI	[0]	T-CSI OPTIONAL,	
o-CSI	[1]	O-CSI OPTIONAL,	
extensionContainer	[2]	ExtensionContainer	OPTIONAL,
...			
o-BcsmCamelTDP-CriteriaList	[3]	O-BcsmCamelTDPCriteriaList	OPTIONAL,
t-BCSM-CAMEL-TDP-CriteriaList	[4]	T-BCSM-CAMEL-TDP-CriteriaList	OPTIONAL,
d-csi	[5]	D-CSI	OPTIONAL}

ProvideSIWFSNumberArg ::= SEQUENCE {			
gsm-BearerCapability	[0]	ExternalSignalInfo,	
isdn-BearerCapability	[1]	ExternalSignalInfo,	
call-Direction	[2]	CallDirection,	
b-Subscriber-Address	[3]	ISDN-AddressString,	
chosenChannel	[4]	ExternalSignalInfo,	
lowerLayerCompatibility	[5]	ExternalSignalInfo	OPTIONAL,
highLayerCompatibility	[6]	ExternalSignalInfo	OPTIONAL,
extensionContainer	[7]	ExtensionContainer	OPTIONAL,
...			

CallDirection ::= OCTET STRING (SIZE (1))	
OCTET 1	
bit 1 (direction of call)	
0 Mobile Originated Call (MOC)	
1 Mobile Terminated Call (MTC)	

ProvideSIWFSNumberRes ::= SEQUENCE {			
siWFSNumber	[0]	ISDN-AddressString,	
extensionContainer	[1]	ExtensionContainer	OPTIONAL,
...			

```

SIWFSSignallingModifyArg ::= SEQUENCE {
  channelType [0] ExternalSignalInfo OPTIONAL,
  chosenChannel [1] ExternalSignalInfo OPTIONAL,
  extensionContainer [2] ExtensionContainer OPTIONAL,
  ...}

```

```

SIWFSSignallingModifyRes ::= SEQUENCE {
  chosenChannel [0] ExternalSignalInfo OPTIONAL,
  extensionContainer [1] ExtensionContainer OPTIONAL,
  ...}

```

```

SetReportingStateArg ::= SEQUENCE {
  imsi [0] IMSI OPTIONAL,
  lmsi [1] LMSI OPTIONAL,
  ccbs-Monitoring [2] ReportingState OPTIONAL,
  extensionContainer [3] ExtensionContainer OPTIONAL,
  ...}

```

```

. . .
<Unchanged ASN.1>
. . .

```

*** Next modified section ***

21.1 General

The MAP call handling procedures are used:

- to retrieve routing information to handle a mobile terminating call;
- to transfer control of a call back to the GMSC if the call is to be forwarded;
- to retrieve and transfer information between anchor MSC and relay MSC for inter MSC group calls / broadcast calls;
- ~~— to allocate resources in an SIWFS;~~
- to handle the reporting of MS status for call completion services;
- to handle the notification of remote user free for CCBS;
- to handle the alerting and termination of ongoing call activities for a specific subscriber.

The procedures to handle a mobile originating call and a mobile terminating call after the call has arrived at the destination MSC do not require any signalling over a MAP interface. These procedures are specified in 3GPP TS 23.018 [97].

The stage 2 specification for the retrieval of routing information to handle a mobile terminating call is in 3GPP TS 23.018 [97]; modifications to this procedure for CAMEL are specified in 3GPP TS 23.078 [98], for optimal routing of a basic mobile-to-mobile call in 3GPP TS 23.079 [99] and for CCBS in 3GPP TS 23.093 [107]. The interworking between the MAP signalling procedures and the call handling procedures for each entity (GMSC, HLR and VLR) is shown by the transfer of signals between these procedures.

The stage 2 specification for the transfer of control of a call back to the GMSC if the call is to be forwarded is in 3GPP TS 23.079 [99]. The interworking between the MAP signalling procedures and the call handling procedures for each entity (VMSC and GMSC) is shown by the transfer of signals between these procedures.

The stage 2 specifications for inter MSC group calls / broadcast calls are in 3GPP TS 43.068 [100] and 3GPP TS 43.069 [101]. The interworking between the MAP signalling procedures and the group call / broadcast call procedures for each entity (Anchor MSC and Relay MSC) is shown by the transfer of signals between these procedures.

~~The stage 2 specification for the allocation of resources in an SIWFS is in GSM 03.54. The interworking between the MAP signalling procedures and the call handling procedures for each entity (VMSC and SIWFS) is shown by the transfer of signals between these procedures.~~

The interworking between the call handling procedures and signalling protocols other than MAP are shown in 3GPP TS 23.018, 3GPP TS 23.078 and 3GPP TS 23.079 [99].

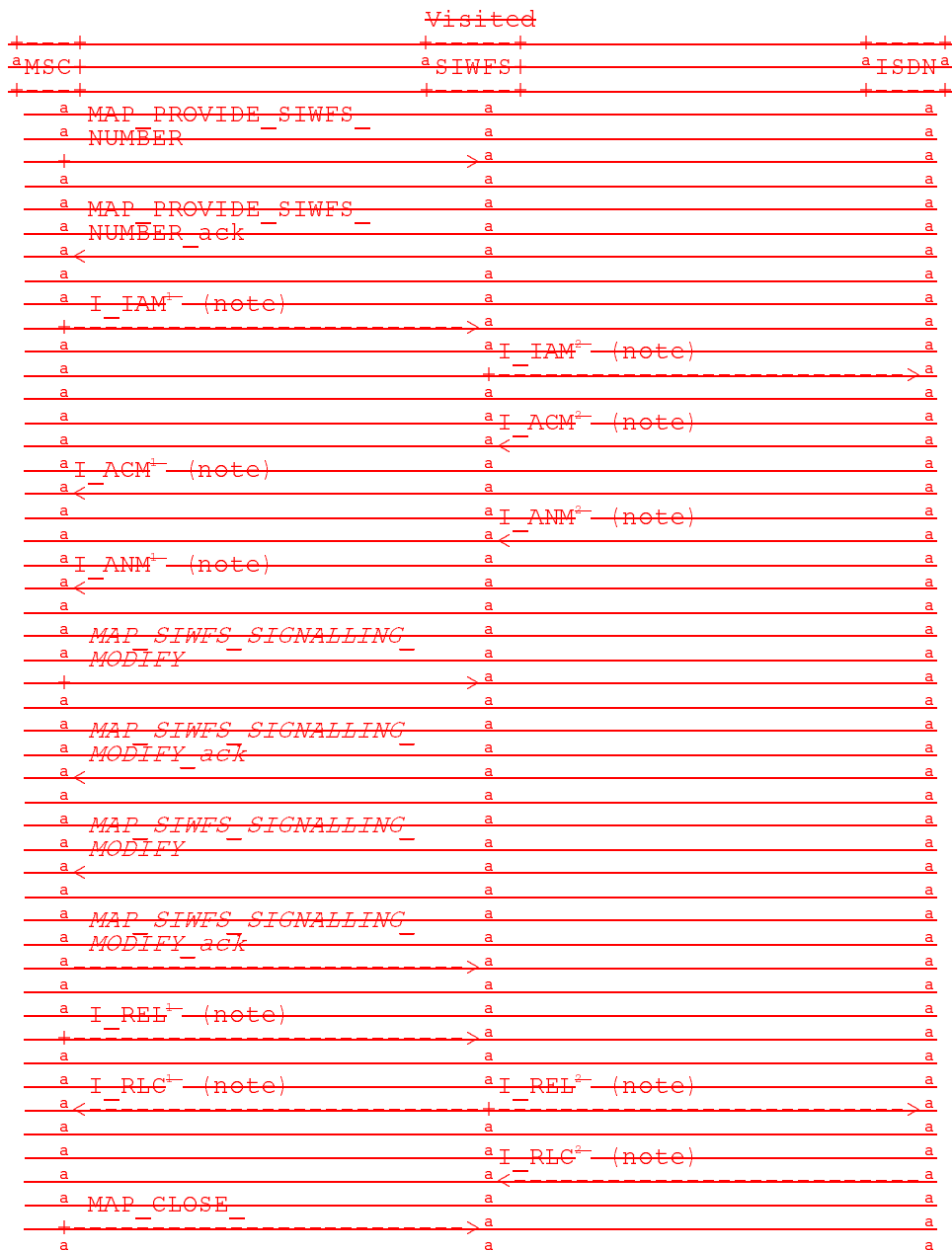
The stage 2 specification for the handling of reporting of MS status for call completion services and notification of remote user free for CCBS is in 3GPP TS 23.093 [107].

***** Next modified section *****

21.5 Allocation and modifications of resources in an SIWFS Void

21.5.1 General

The message flow for successful allocation and modification of resources in an SIWFS is shown in figure 21.5/1 (mobile originating call non loop method), 21.5/2 (mobile originating call loop method) and 21.5/3 (mobile terminating call loop method):



~~xxx = Optional Procedure~~

~~NOTE 1: TUP or ISUP may be used in signalling between MSCs, depending on the network type between the MSCs. The Release message can be initiated either by the calling or called subscriber. For further details on the TUP and ISUP procedures refer to the following CCITT Recommendations & ETSI specification:~~

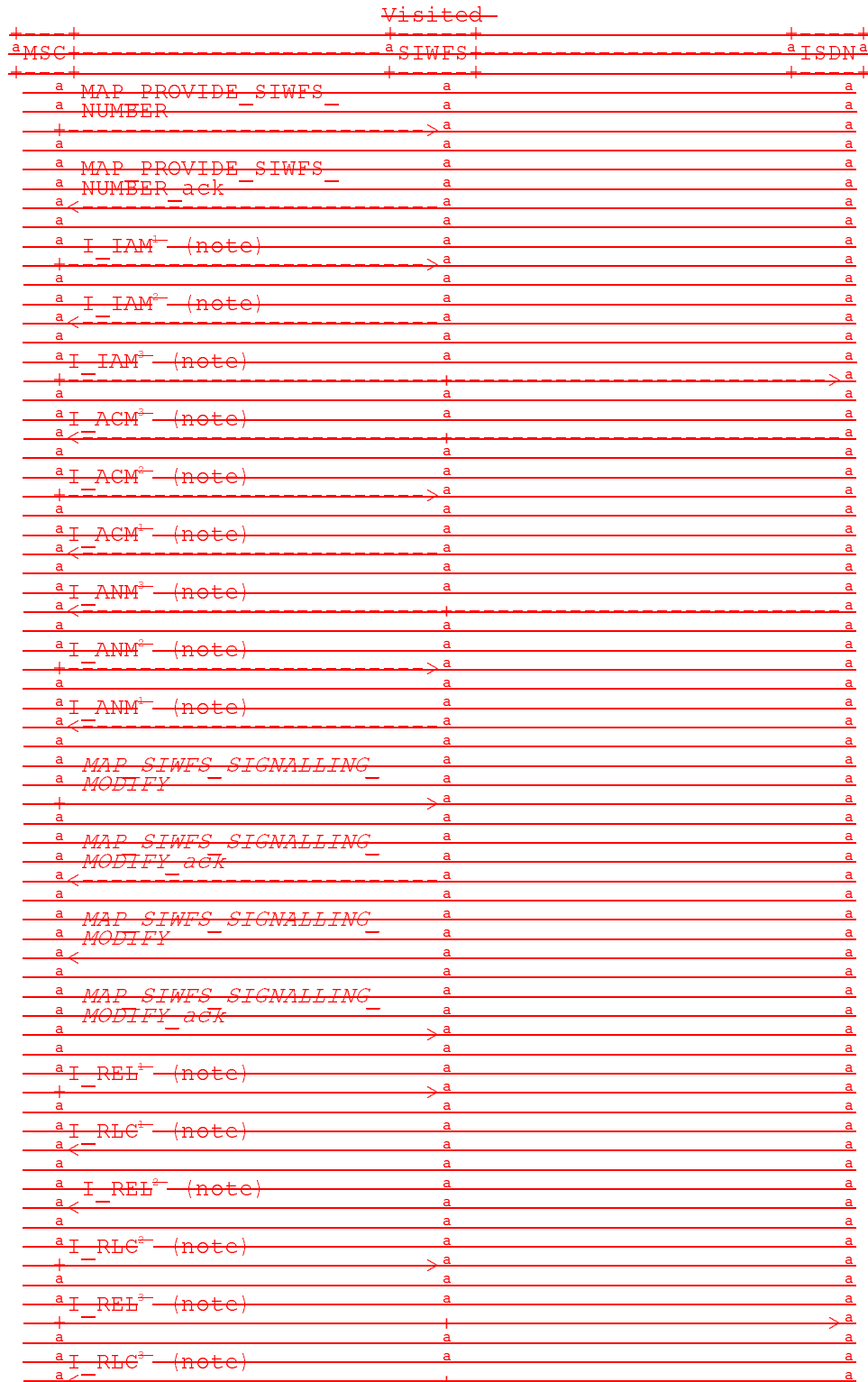
~~— Q.721-725 - Telephone User Part (TUP);~~

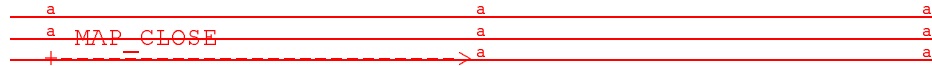
~~— ETS 300 356-1 - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services.~~

~~NOTE 2: The number on the ISUP messages have been added to link the messages to respective signalling sequence.~~

~~NOTE 3: The modification of SIWF resources could be initiated any time during the call either by the VMSC or the SIWFS.~~

Figure 21.5/1: Message flow for mobile originating call non-loop method





xxx = Optional Procedure

NOTE 1: TUP or ISUP may be used in signalling between MSCs, depending on the network type between the MSCs. The Release message can be initiated either by calling or called subscriber. For further details on the TUP and ISUP procedures refer to the following CCITT Recommendations & ETSI specification:

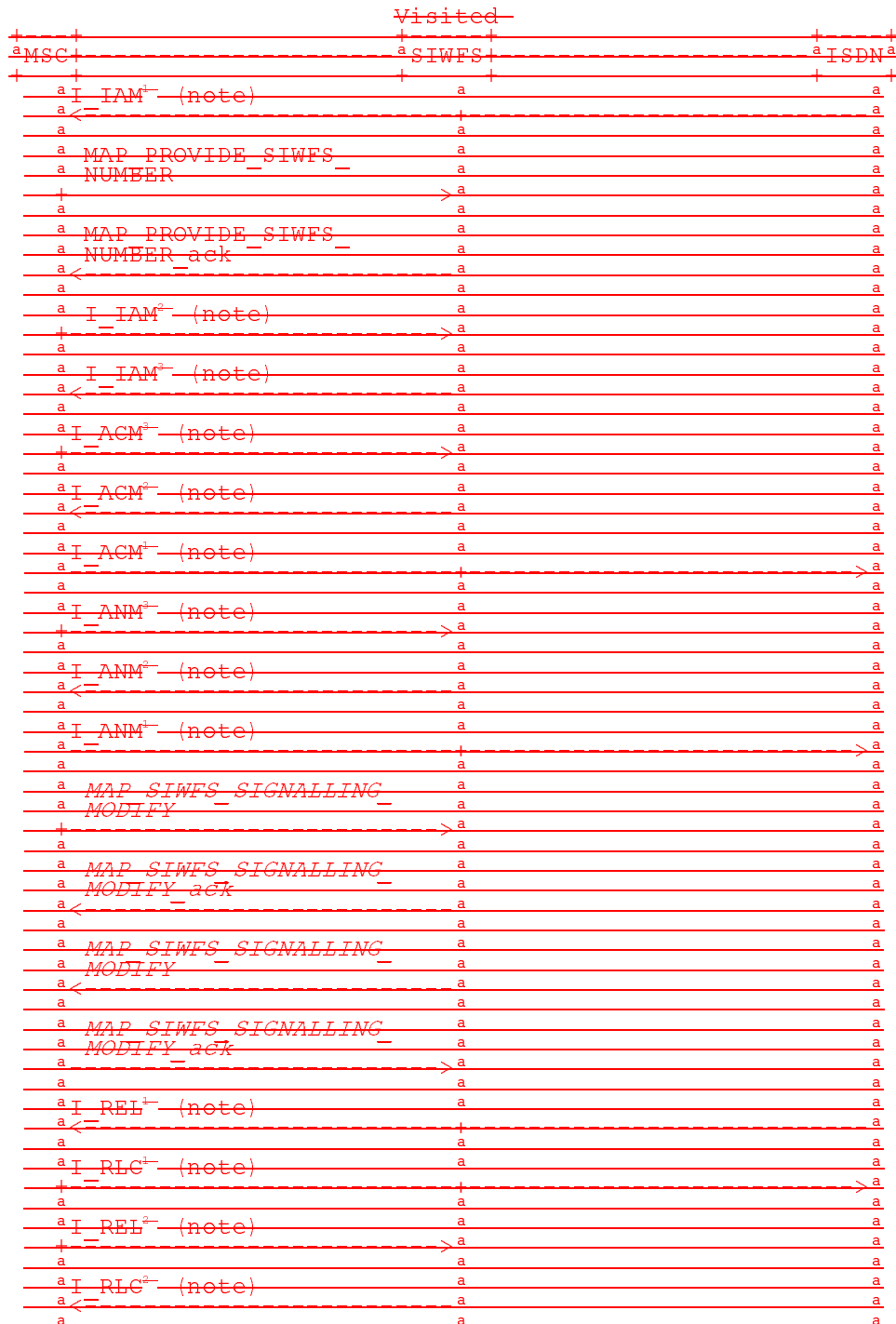
- Q.721-725 - Telephone User Part (TUP);

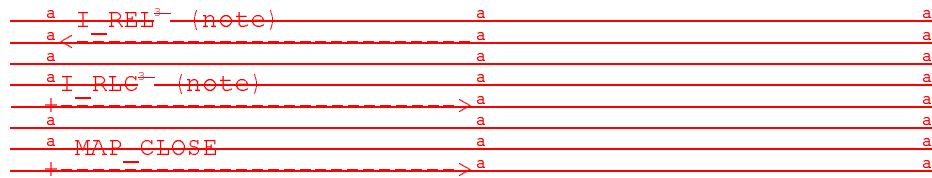
- ETS 300 356-1 - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services.

NOTE 2: The number on the ISUP messages have been added to link the messages to respective signalling sequence.

NOTE 3: The modification of SIWF resources could be initiated any time during the call either by the VMSC or the SIWFS.

Figure 21.5/2: Message flow for mobile originating call loop method





~~xxx = Optional Procedure~~

~~NOTE 1: TUP or ISUP may be used in signalling between MSCs, depending on the network type between the MSCs. The Release message can be initiated either by calling or called subscriber. For further details on the TUP and ISUP procedures refer to the following CCITT Recommendations & ETSI specification:~~

~~— Q.721-725— Telephone User Part (TUP);~~

~~— ETS 300 356-1— Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services.~~

~~NOTE 2: The number on the ISUP messages have been added to link the messages to respective signalling sequence.~~

~~NOTE 3: The modification of SIWF resources could be initiated any time during the call either by the VMSC or the SIWFS.~~

Figure 21.5/3: Message flow for mobile terminating call loop method

The following MAP services are used to allocate resources in an SIWFS:

~~MAP_PROVIDE_SIWFS_NUMBER— see clause 10.8.~~

The following MAP services are used to modify resources in an SIWFS:

~~MAP_SIWFS_SIGNALLING_MODIFY— see clause 10.9.~~

21.5.2 Process in the VMSC

The MAP process in the VMSC to allocate and modify resources in an SIWFS for a mobile call is shown in figure 21.5/4. The MAP process invokes macros not defined in this clause; the definitions of these macros can be found as follows:

~~Receive_Open_Cnf— see clause 25.1.2;~~

~~Check_Confirmation— see clause 25.2.2.~~

21.5.2.1 Allocation of SIWFS resources

Successful Outcome

When the MAP process receives a Provide SIWFS Number request from the call handling process in the VMSC, it requests a dialogue with the SIWF whose identity is contained in the Provide SIWFS Number request by sending a MAP_OPEN service request, requests resources in the SIWFS using a MAP_PROVIDE_SIWFS_NUMBER service request and invokes the macro Receive_Open_Cnf to wait for the response to the dialogue opening request. If the dialogue opening is successful, the MAP process waits for a response from the SIWFS.

If the MAP process receives a MAP_PROVIDE_SIWFS_NUMBER service confirm from the SIWFS, the MAP process invokes the macro Check_Confirmation to check the content of the confirm.

If the macro Check_Confirmation takes the OK exit, the MAP process sends a Provide SIWFS Number ack containing the SIWFS Number received from the SIWFS to the call handling process in the VMSC and go to Wait_For_Modification state.

Earlier version MAP dialogue with the SIWFS

If the macro Receive_Open_Cnf takes the Vr exit, the MAP process sends an Abort to the call handling process in the VMSC and returns to the idle state.

Dialogue opening failure

If the macro Receive_Open_Cnf indicates that the dialogue with the SIWFS could not be opened, the MAP process sends an Abort to the call handling process in the VMSC and returns to the idle state.

Error in MAP_PROVIDE_SIWFS_NUMBER confirm

If the MAP_PROVIDE_SIWFS_NUMBER service confirm contains a user error or a provider error, or the macro Check_Confirmation indicates that there is a data error, the MAP process sends a Provide SIWFS number negative response to the call handling process in the VMSC and returns to the idle state.

Call release

If the call handling process in the VMSC indicates that the call has been aborted, the MAP process returns to the idle state. Any response from the SIWFS will be discarded.

If the call handling process in the VMSC indicates that the traffic channel has been released (i.e. call released by a user) a MAP_CLOSE_req is sent and the process is returned to the idle state.

Abort of SIWFS dialogue

During the time an answer is expected from the SIWFS, the MAP service provider may abort the dialogue by issuing a MAP_P_ABORT indication, or the SIWFS may send a MAP_U_ABORT indication or a MAP_CLOSE indication. In any of these cases, the MAP process sends a Provide SIWFS number negative response to the call handling process in the VMSC and returns to the idle state.

If the MAP provider indicates a protocol problem by sending a MAP_NOTICE indication, the MAP process closes the dialogue with the SIWFS, sends a Provide SIWFS number negative response indicating system failure to the call handling process in the VMSC and returns to the idle state.

After the dialogue with the SIWFS has been established, the MAP service provider may abort the dialogue by issuing a MAP_P_ABORT indication, or the SIWFS may send a MAP_U_ABORT indication or a MAP_CLOSE indication. In any of these cases, the MAP process returns to the idle state.

If the MAP provider indicates a protocol problem by sending a MAP_NOTICE indication, the MAP process closes the dialogue with the SIWFS, and returns to the idle state.

21.5.2.2 — Modification of SIWFS resources initiated by the user**Successful Outcome**

When the MAP process receives an SIWFS Signalling Modify request from the call handling process in the VMSC, it requests a dialogue with the SIWFS whose identity is contained in the SIWFS Signalling Modify request by sending a MAP_SIWFS_SIGNALLING_MODIFY service request and waits for a response from the SIWFS.

If the MAP process receives a MAP_SIWFS_SIGNALLING_MODIFY service confirm from the SIWFS, the MAP process invokes the macro Check_Confirmation to check the content of the confirm.

If the macro Check_Confirmation takes the OK exit, the MAP process sends an SIWFS Signalling Modify ack containing the response received from the SIWFS to the call handling process in the VMSC and go to Wait_For_Modification state.

Error in MAP_SIWFS_SIGNALLING_MODIFY confirm

If the MAP_SIWFS_SIGNALLING_MODIFY service confirm contains a user error or a provider error, or the macro Check_Confirmation indicates that there is a data error, the MAP process sends an SIWFS Signalling Modify negative response to the call handling process in the VMSC and go to Wait_For_Modification state.

Abort of SIWFS dialogue

During the time an answer is expected from the SIWFS, the MAP service provider may abort the dialogue by issuing a MAP_P_ABORT indication, or the SIWFS may send a MAP_U_ABORT indication or a MAP_CLOSE indication. In any of these cases, the MAP process sends an SIWFS Signalling Modify negative response to the call handling process in the VMSC and returns to the idle state.

If the MAP provider indicates a protocol problem by sending a MAP_NOTICE indication, the MAP process closes the dialogue with the SIWFS, sends an SIWFS Signalling Modify negative response indicating system failure to the call handling process in the VMSC and returns to the idle state.

21.5.2.3 — Modification of SIWFS resources initiated by the SIWFS

Successful outcome

If a ~~MAP_SIWFS_SIGNALLING_MODIFY~~ service indication is received, the MAP process sends an SIWFS signalling modify Info request to the call handling process in the VMSC, and waits for a response. The SIWFS signalling modify request contains the parameters received in the ~~MAP_SIWFS_SIGNALLING_MODIFY~~ service indication.

If the call handling process in the VMSC returns an SIWFS signalling modify ack, the MAP process constructs a ~~MAP_SIWFS_SIGNALLING_MODIFY~~ service response contained in the Provide SIWFS Number ack, send it to the SIWFS and go to Wait_For_Modification state.

Negative response from VMSC call handling process

If the call handling process in the VMSC returns a negative response the MAP process constructs a ~~MAP_SIWFS_SIGNALLING_MODIFY~~ service response containing the appropriate error, send it to the SIWFS and go to Wait_For_Modification state.

Process SRA_VMSC

21.5_4.1(6)

Figure 21.5/4: Process in the VMSC for administration of SIWFS resources

Signals to/from the left are to/from the VMSC call handling process; signals to/from the right are to/from the SIWFS

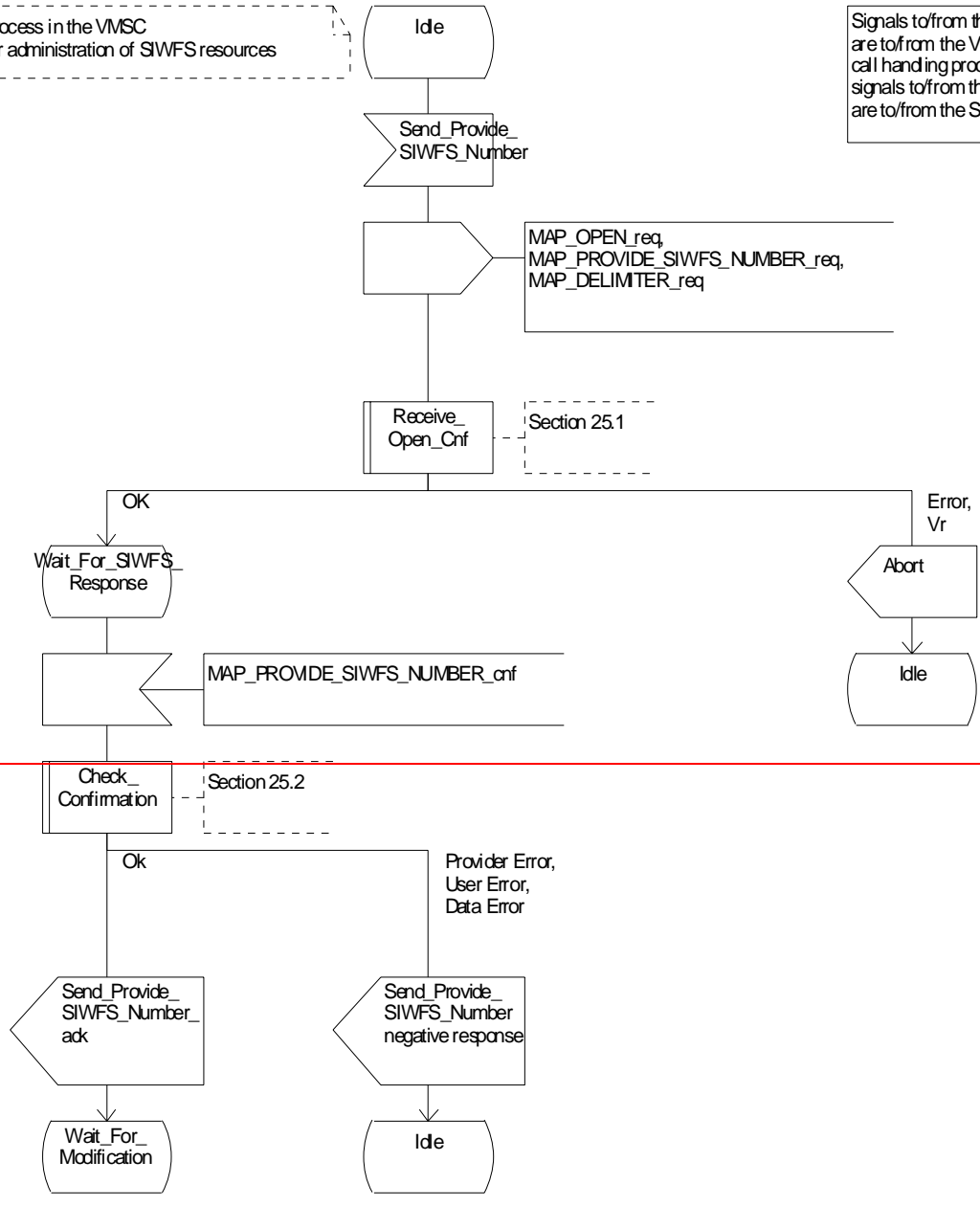


Figure 21.5/4 (sheet 1 of 6): Process SRA (SIWFS_RESOURCE_ADMINISTRATION)_VMSC

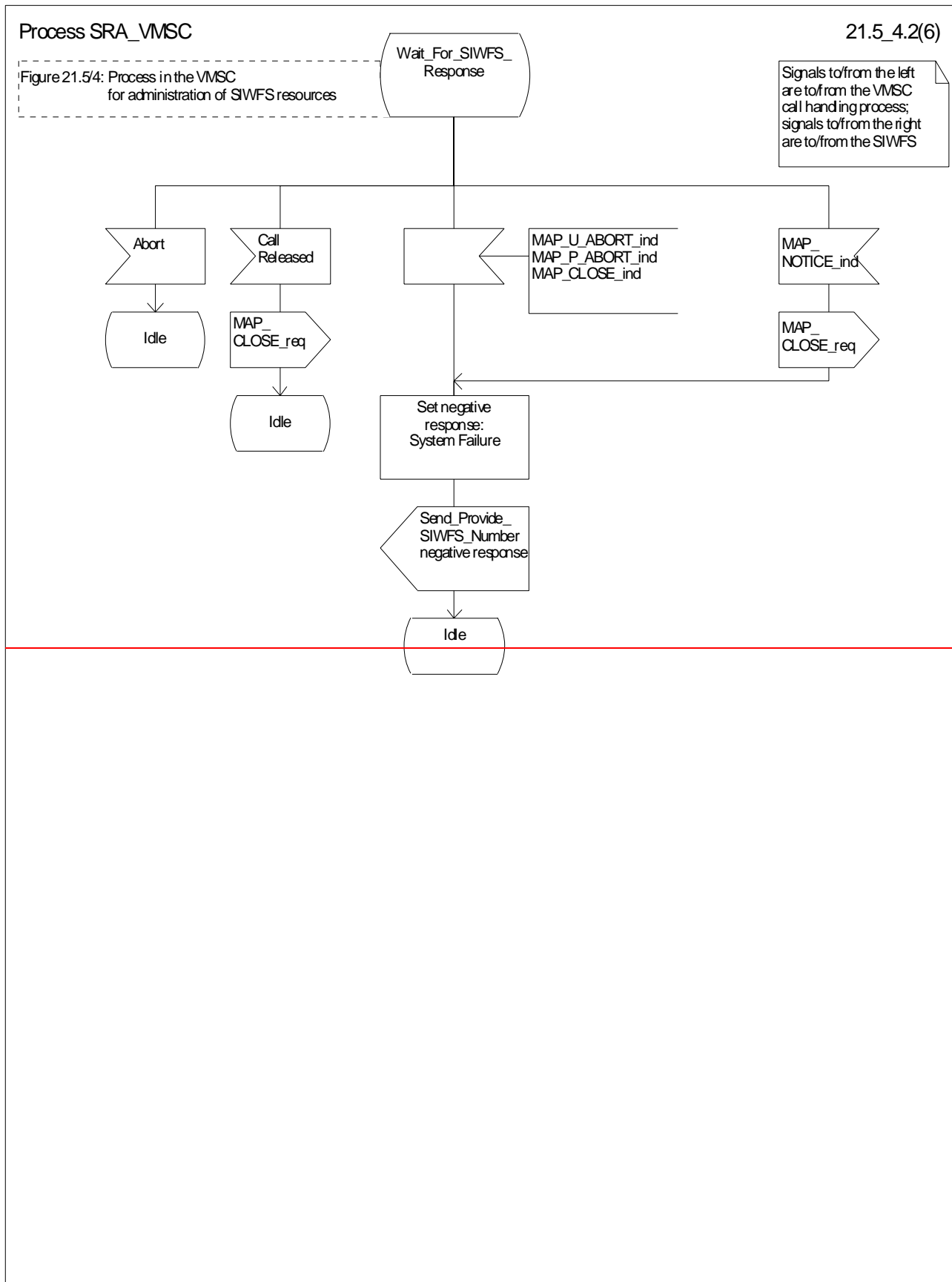


Figure 21.5/4 (sheet 2 of 6): Process SRA_VMSC

Process SRA_VMSC

21.5_4.3(6)

Figure 21.5/4: Process in the VMSC for administration of SIWFS resources

Signals to/from the left are to/from the VMSC call handling process; signals to/from the right are to/from the SIWFS

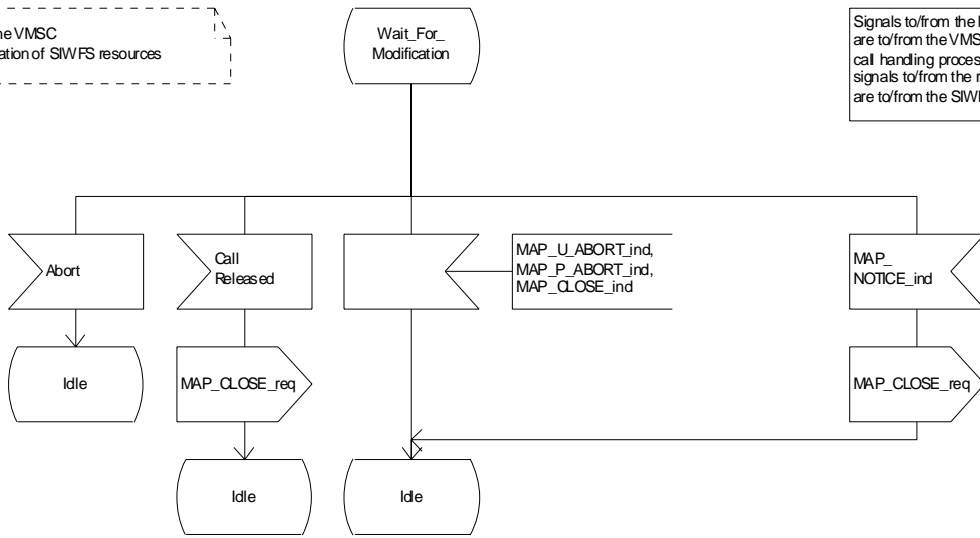


Figure 21.5/4 (sheet 3 of 6): Process SRA_VMSC

Process SRA_VMSC

21.5_4.4(6)

Figure 21.5/4: Process in the VMSC for administration of SIWFS resources

Signals to/from the left are to/from the VMSC call handling process; signals to/from the right are to/from the SIWFS

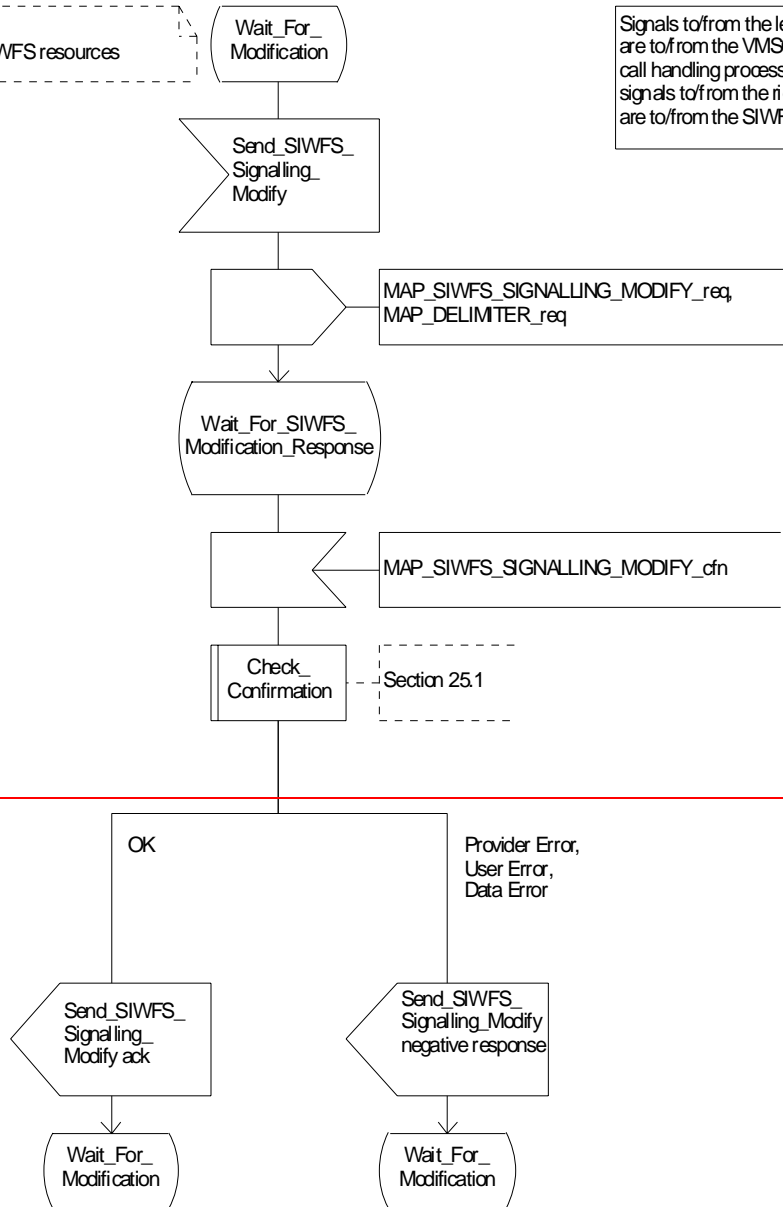


Figure 21.5/4 (sheet 4 of 6): Process SRA_VMSC

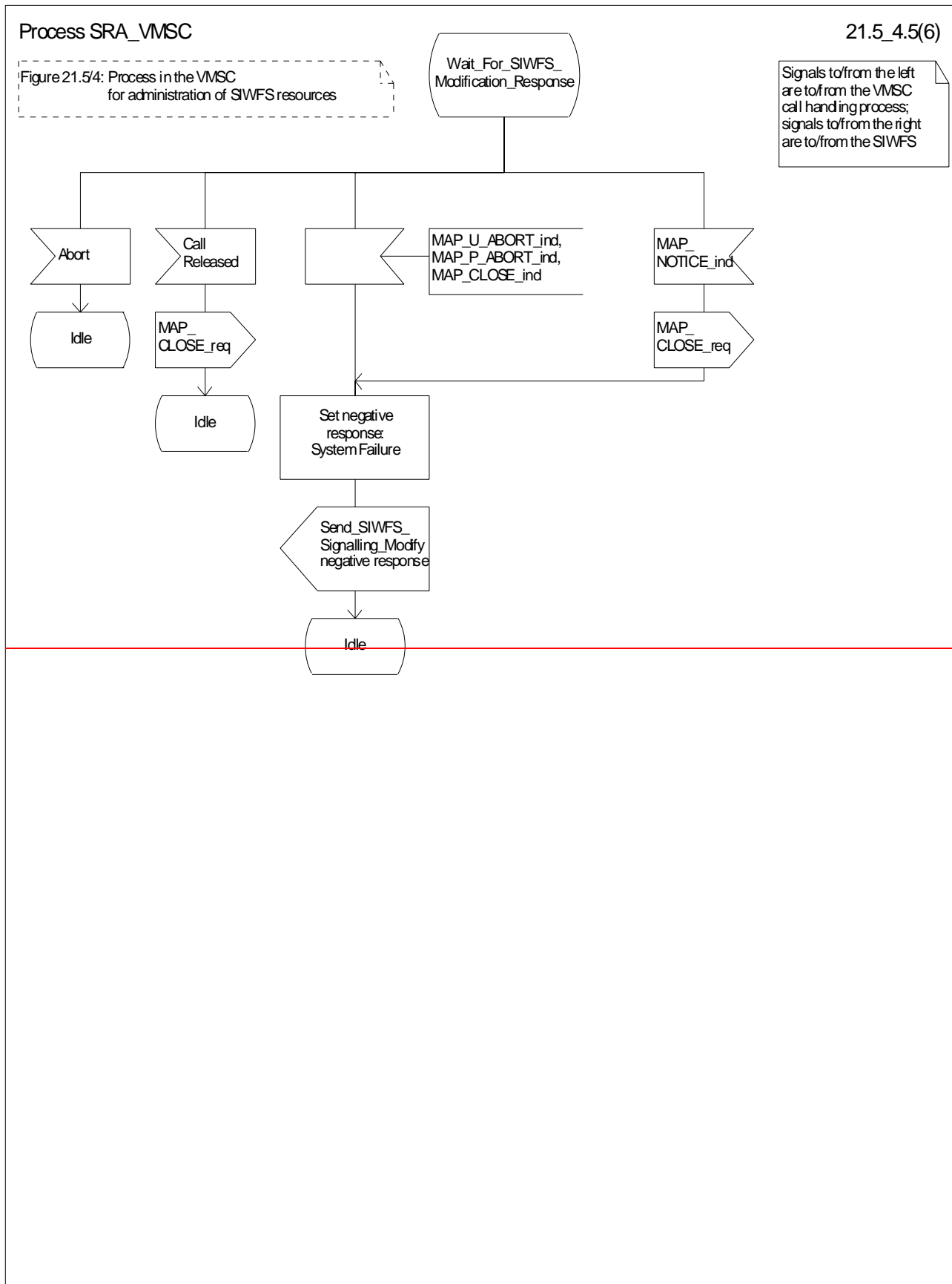


Figure 21.5/4 (sheet 5 of 6): Process SRA_VMSC

Process SRA_VMSC

21.5_4.6(6)

Figure 21.5/4: Process in the VMSC for administration of SIWFS resources

Signals to/from the left are to/from the VMSC call handling process; signals to/from the right are to/from the SIWFS

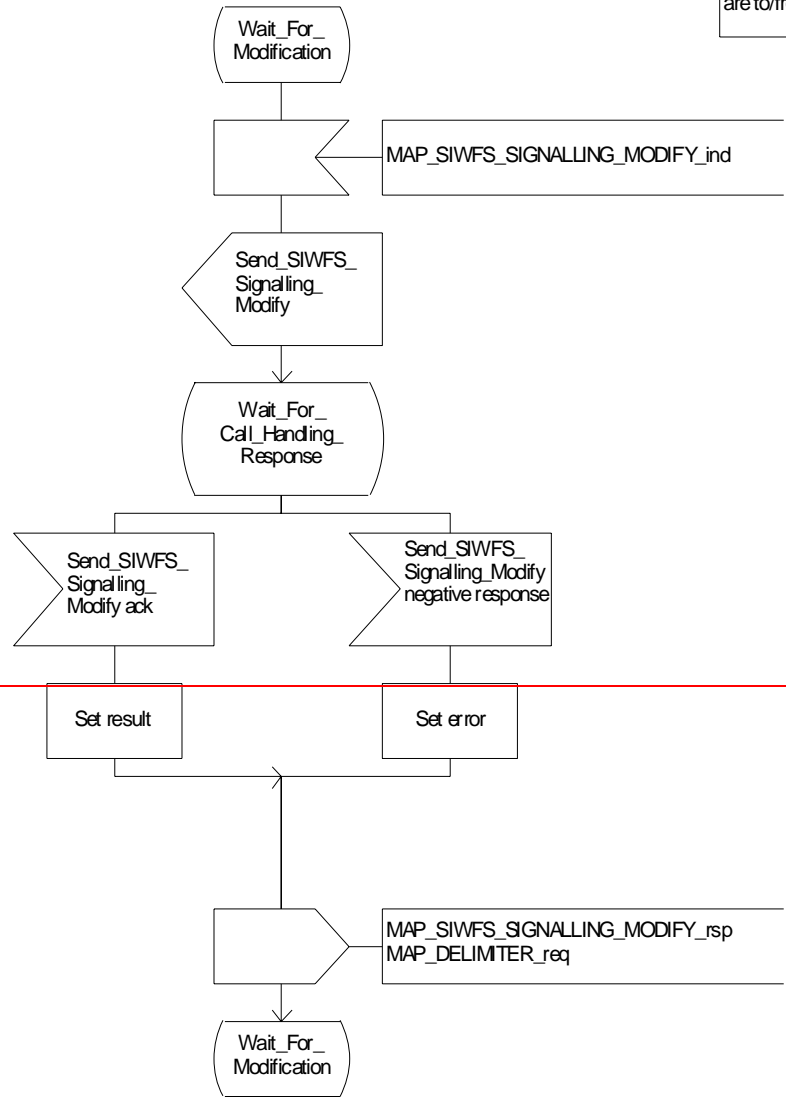


Figure 21.5/4 (sheet 6 of 6): Process SRA_VMSC

21.5.3 ~~Process in the SIWFS~~

~~The MAP process in the SIWFS to allocate and modify SIWFS resources for a mobile call is shown in figure 21.5/5. The MAP process invokes macros not defined in this clause; the definitions of these macros can be found as follows:~~

~~Receive_Open_Ind — see clause 25.1.1.~~

~~Check_Confirmation — see clause 25.2.2.~~

21.5.3.1 ~~Procedures for allocation of SIWFS resources~~

~~Successful outcome~~

~~When the MAP process receives a MAP_OPEN indication with the application context locInfoRetrieval, it checks it by invoking the macro Receive_Open_Ind.~~

~~If the macro takes the OK exit, the MAP process waits for a service indication.~~

~~If a MAP_PROVIDE_SIWFS_NUMBER service indication is received, the MAP process sends a Provide SIWFS number Info request to the call handling process in the SIWFS, and waits for a response. The Provide SIWFS number request contains the parameters received in the MAP_PROVIDE_SIWFS_NUMBER service indication.~~

~~If the call handling process in the SIWFS returns a Provide SIWFS number ack, the MAP process constructs a MAP_PROVIDE_SIWFS_NUMBER service response containing the routing information contained in the Provide SIWFS Number ack, constructs a MAP_DELIMITER service request, sends them to the VMSC and go to Wait_For_Modification state.~~

~~Earlier version MAP dialogue with the VMSC~~

~~If the macro Receive_Open_Ind takes the Vr exit, the MAP process returns to the idle state.~~

~~Dialogue opening failure~~

~~If the macro Receive_Open_Ind takes the Error exit, the MAP process returns to the idle state.~~

~~If the MAP provider sends a MAP_P_ABORT while the MAP process is waiting for a service indication, the MAP process returns to the idle state.~~

~~If the MAP provider sends a MAP_NOTICE while the MAP process is waiting for a service indication, the MAP process sends a MAP_CLOSE request to terminate the dialogue and returns to the idle state.~~

~~Negative response from SIWFS call handling process~~

~~If the call handling process in the SIWFS returns a negative response the MAP process constructs a MAP_PROVIDE_SIWFS_NUMBER service response containing the appropriate error, constructs a MAP_CLOSE service request, sends them to the VMSC and returns to the idle state.~~

~~Call release~~

~~If the call handling process in the SIWFS indicates that the call has been aborted, the MAP process returns to the idle state. Any response from the VMSC will be discarded.~~

~~If the call handling process in the SIWFS indicates that the traffic channel has been released (i.e. call released by a user) a MAP_CLOSE_req is sent and the process is returned to the idle state.~~

~~Abort of VMSC dialogue~~

~~After the dialogue with the VMSC has been established, the MAP service provider may abort the dialogue by issuing a MAP_P_ABORT indication, or the VMSC may send a MAP_U_ABORT indication or a MAP_CLOSE indication. In any of these cases, the MAP process returns to the idle state.~~

~~If the MAP provider indicates a protocol problem by sending a MAP_NOTICE indication, the MAP process closes the dialogue with the VMSC, and returns to the idle state.~~

21.5.3.2 — Process for modification of SIWFS resources initiated by the user

Successful outcome

If a MAP_SIWFS_SIGNALLING_MODIFY service indication is received, the MAP process sends an SIWFS signalling modify Info request to the call handling process in the SIWFS, and waits for a response. The SIWFS signalling modify request contains the parameters received in the MAP_SIWFS_SIGNALLING_MODIFY service indication.

If the call handling process in the SIWFS returns an SIWFS signalling modify ack, the MAP process constructs a MAP_SIWFS_SIGNALLING_MODIFY service response contained in the Provide SIWFS Number ack, send it to the VMSC and go to Wait_For_Modification state.

Negative response from SIWFS call handling process

If the call handling process in the SIWFS returns a negative response the MAP process constructs a MAP_SIWFS_SIGNALLING_MODIFY service response containing the appropriate error, send it to the VMSC and go to Wait_For_Modification state.

21.5.3.3 — Process for modification of SIWFS resources initiated by the SIWFS

Successful Outcome

When the MAP process receives an SIWFS Signalling Modify request from the call handling process in the SIWF, it requests a dialogue with the VMSC whose identity is contained in the VMSC Signalling Modify request by sending a MAP_DELIMITER service request, requests resources in the VMSC using a MAP_SIWFS_SIGNALLING_MODIFY service request, the MAP process waits for a response from the VMSC.

If the MAP process receives a MAP_SIWFS_SIGNALLING_MODIFY service confirm from the VMSC, the MAP process invokes the macro Check_Confirmation to check the content of the confirm.

If the macro Check_Confirmation takes the OK exit, the MAP process sends an SIWFS Signalling Modify ack containing the response received from the VMSC to the call handling process in the SIWF and go to Wait_For_Modification state.

Error in MAP_SIWFS_SIGNALLING_MODIFY confirm

If the MAP_SIWFS_SIGNALLING_MODIFY service confirm contains a user error or a provider error, or the macro Check_Confirmation indicates that there is a data error, the MAP process sends an SIWFS Signalling Modify negative response to the call handling process in the SIWFS and go to Wait_For_Modification state.

Abort of SIWFS dialogue

During the time an answer is expected from the VMSC, the MAP service provider may abort the dialogue by issuing a MAP_P_ABORT indication, or the VMSC may send a MAP_U_ABORT indication or a MAP_CLOSE indication. In any of these cases, the MAP process sends an SIWFS Signalling Modify negative response to the call handling process in the SIWFS and returns to the idle state.

If the MAP provider indicates a protocol problem by sending a MAP_NOTICE indication, the MAP process closes the dialogue with the VMSC, sends an SIWFS Signalling Modify negative response indicating system failure to the call handling process in the SIWFS and returns to the idle state.

Process SRA_SIWFS

21.5_5.1(5)

Figure 21.5/5: Process in the SIWFS for administration of SIWFS resources

Signals to/from the left are to/from the SIWFS call handling process; signals to/from the right are to/from the VMSC

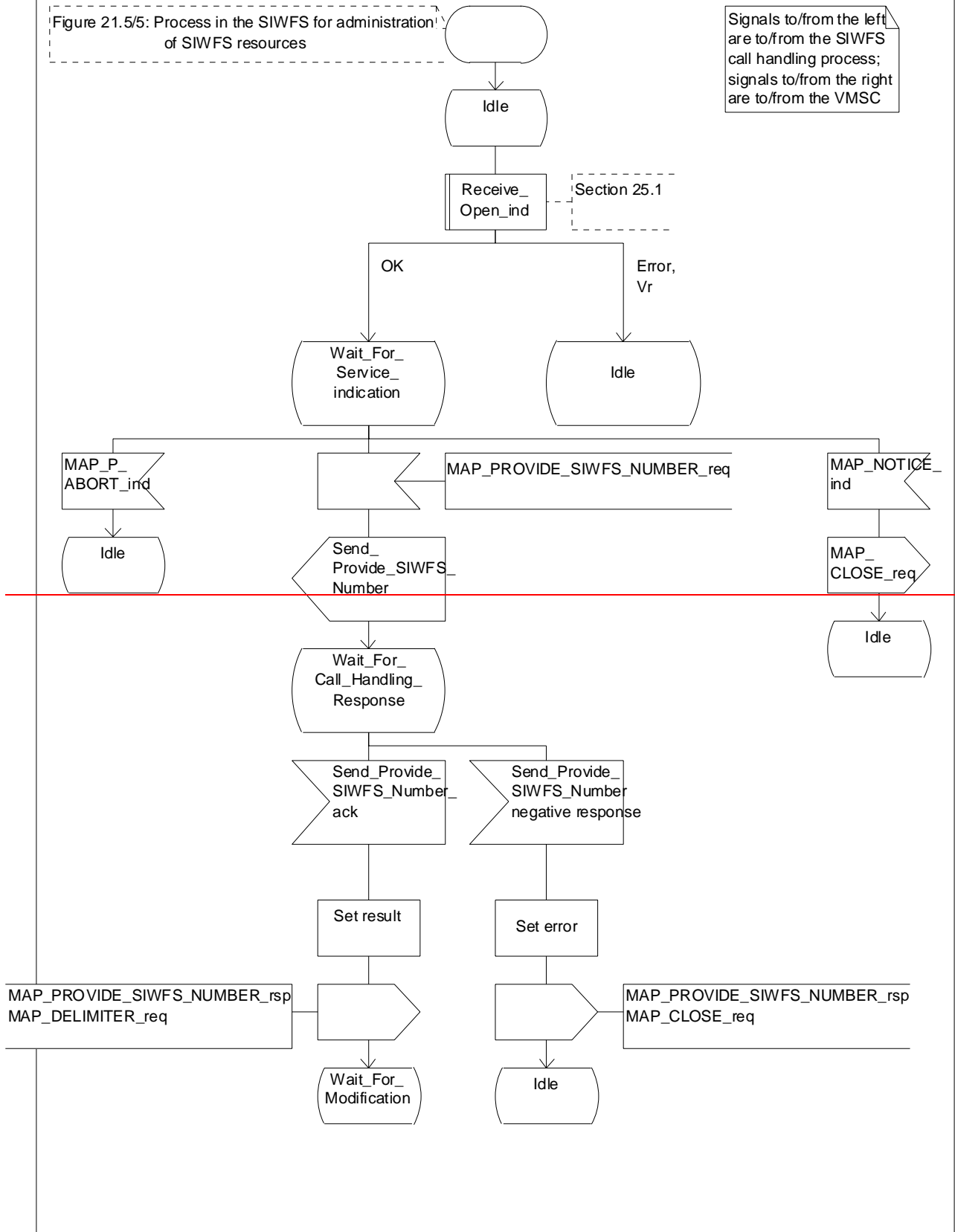


Figure 21.5/5 (sheet 1 of 5): Process SRA_SIWFS

Process SRA_SIWFS

21.5_5.2(5)

Figure 21.5/5: Process in the SIWFS for administration of SIWFS resources

Signals to/from the left are to/from the SIWFS call handling process; signals to/from the right are to/from the VMSC

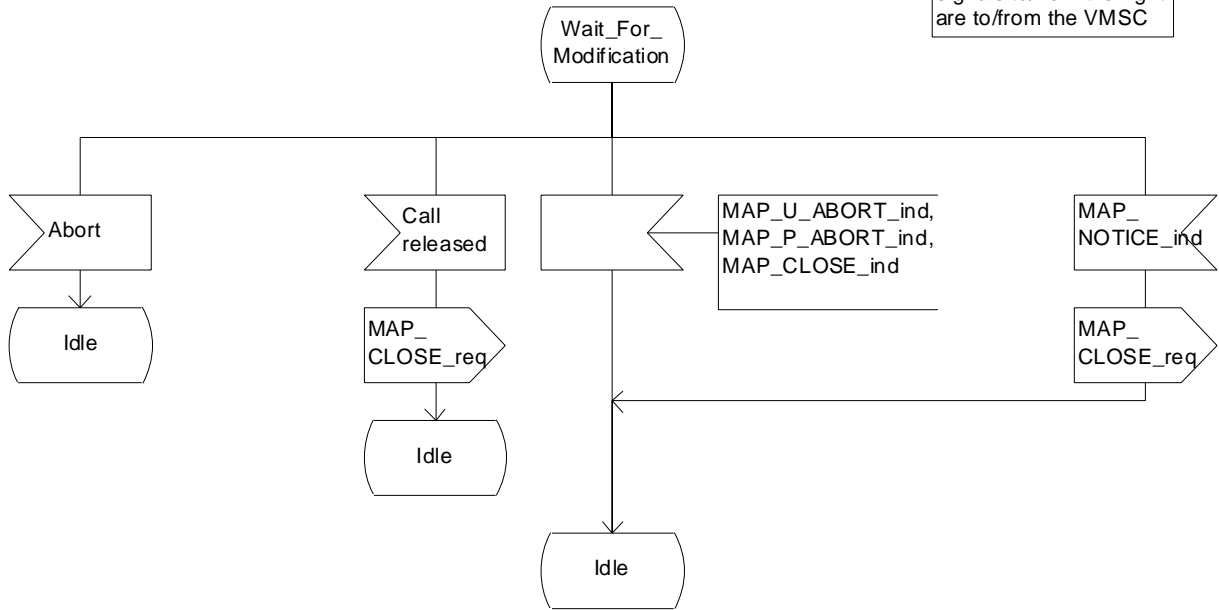


Figure 21.5/5 (sheet 2 of 5): Process SRA_SIWFS

Process SRA_SIWFS

21.5_5.3(5)

Figure 21.5/5: Process in the SIWFS for administration of SIWFS resources

Signals to/from the left are to/from the SIWFS call handling process; signals to/from the right are to/from the VMSC

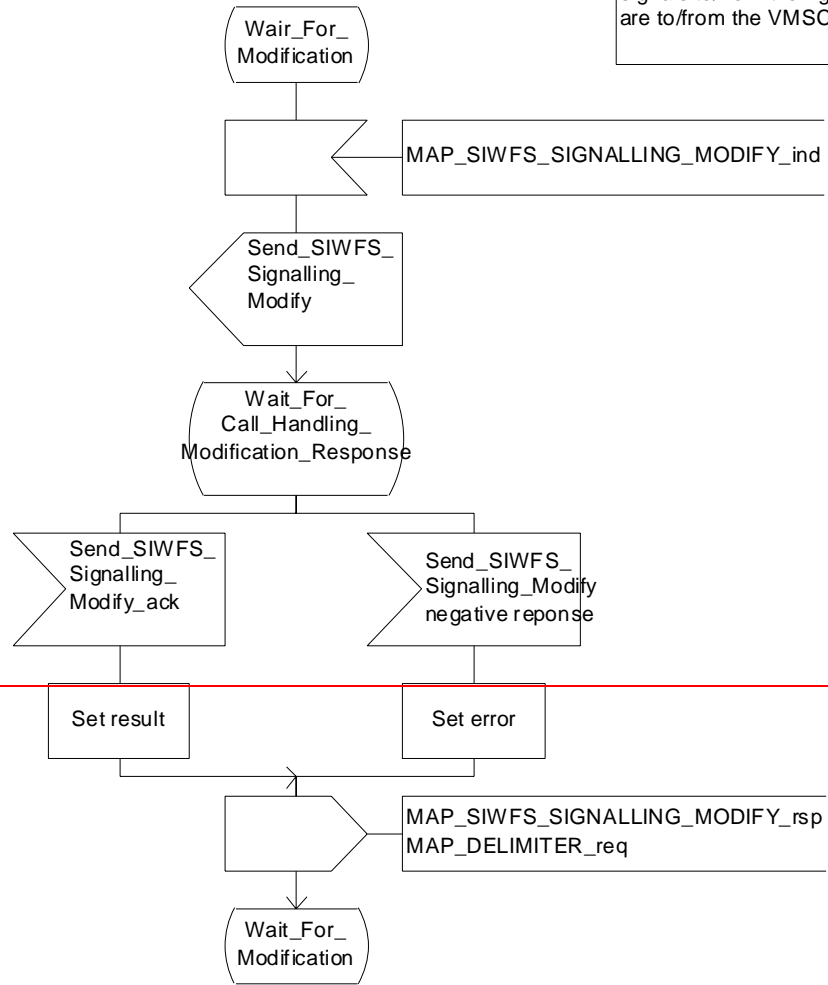


Figure 21.5/5 (sheet 3 of 5): Process SRA_SIWFS

Process SRA_SIWFS

21.5_5.4(5)

Figure 21.5/5: Process in the SIWFS for administration of SIWFS resources

Signals to/from the left are to/from the SIWFS call handling process; signals to/from the right are to/from the VMSC

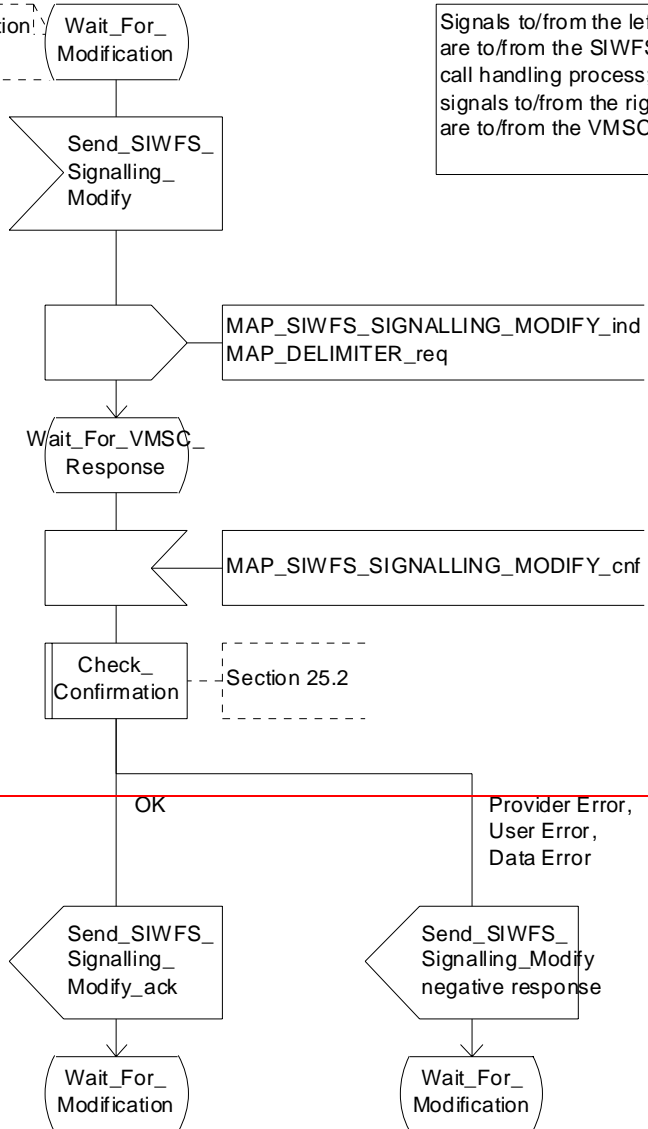


Figure 21.5/5 (sheet 4 of 5): Process SRA_SIWFS

Process SRA_SIWFS

21.5_5.5(5)

Figure 21.5/5: Process in the SIWFS for administration of SIWFS resources

Signals to/from the left are to/from the SIWFS call handling process; signals to/from the right are to/from the VMSC

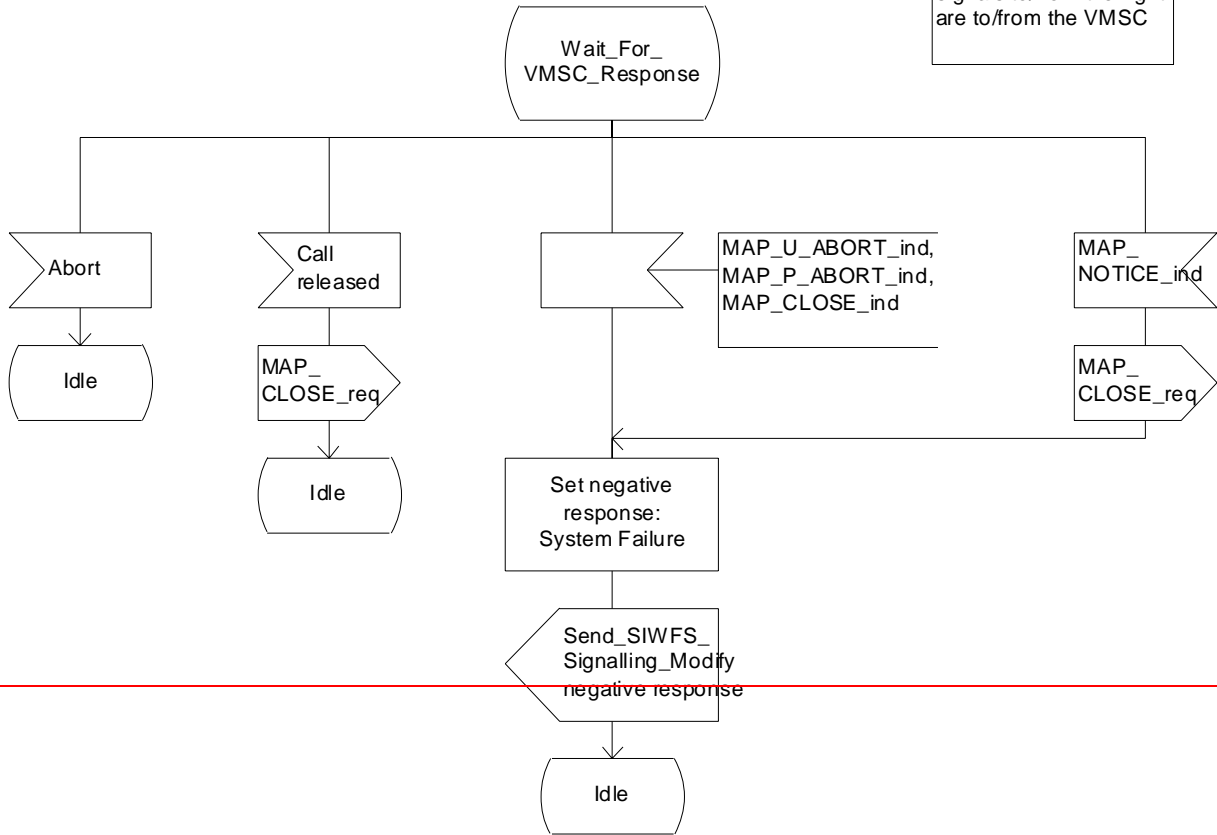


Figure 21.5/5 (sheet 5 of 5): Process SRA_SIWFS

*** End of document ***

CHANGE REQUEST

⌘ **29.002 CR 643** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Deletion of redundant Annex D		
Source:	⌘ CN4		
Work item code:	⌘ TEI6	Date:	⌘ 18/06/2003
Category:	⌘ D	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Annex D was introduced to show the mapping from the clause numbers used in GSM 09.02 v5.9.0 (pre-GPRS) to the clause numbers used in GSM 09.02 v6.0.0 (the first version to deal with GPRS). Now that there are versions 5.w.x and 6.y.z of TS 29.002 , this annex is not simply a waste of space; it is a potential cause of confusion, so it should be deleted.
Summary of change:	⌘ Make Annex D void
Consequences if not approved:	⌘ Unnecessary bulk in the specification; possible confusion

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

Annex D Void (informative): ~~Clause mapping table~~

~~D.1 Mapping of Clause numbers~~

The clause numbers have been modified according to table D.1.

Table D.1: Clause mapping from Version 5.9.0 to Version 6.0.0

Old Clause No (V5.9.0)	New Clause No (V6.0.0)	Old Clause No (V5.9.0)	New Clause No (V6.0.0)
1.1	2	17.*	20.*
1.2	3	18.*	21.*
2.*	4.*	19.*	22.*
3.*	5.*	19.0.*	22.1.*
4.*	6.*	19.1.*	22.2.*
5.*	7.*	19.2.*	22.3.*
6.*	8.*	19.3.*	22.4.*
7.*	9.*	19.4.*	22.5.*
8.*	10.*	19.5.*	22.6.*
9.*	11.*	19.6.*	22.7.*
10.*	12.*	19.7.*	22.8.*
new11.*	13.*	19.8.*	22.9.*
old11.*	14.*	19.9.*	22.10.*
12.*	15.*	19.10.*	22.11.*
13.*	16.*	19.11.*	22.12.*
14.*	17.*	20.*	23.*
15.*	18.*	new22.*	24.*
16.*	19.*	old21.*	25.*

CR-Form-v7

CHANGE REQUEST

29.002 CR 644 # rev - # Current version: 6.2.0

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:	# Removal of tables in section 7.6		
Source:	# CN4		
Work item code:	# TEI6	Date:	# 17/07/2003
Category:	# D	Release:	# Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# The information included in the table in section 7.6 that gives an alphabetical list of the parameters that are defined in the rest of that section is considerably out of date – there are about 70 parameters missing from the table, mistakes in some of the referencing and the list is no longer alphabetically ordered. The table was put in place when the common working practise was to have hard copies of the document to work from. Now that soft copies are more often used, this table's usefulness is limited and given that it is incomplete and inaccurate it is also not providing relevant information any more.
Summary of change:	# Remove table from 7.6.
Consequences if not approved:	# Inconsistent and inaccurate information in the spec.

Clauses affected:	# 7.6								
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications # Test specifications # O&M Specifications #	Y	N	#	X	#	X	#	X
Y	N								
#	X								
#	X								
#	X								
Other comments:	#								

How to create CRs using this form:

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

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

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

7.6 Definition of parameters

Following is an alphabetic list of parameters used in the common MAP services in clause 7.3:

Application context name	7.3.1	Refuse reason	7.3.1
Destination address	7.3.1	Release method	7.3.2
Destination reference	7.3.1	Responding address	7.3.1
Diagnostic information	7.3.4	Result	7.3.1
Originating address	7.3.1	Source	7.3.5
Originating reference	7.3.1	Specific information	7.3.1/7.3.2/7.3.4
Problem diagnostic	7.3.6	User reason	7.3.4
Provider reason	7.3.5		

Following is an alphabetic list of parameters contained in this clause:

Absent Subscriber Diagnostic SM	7.6.8.9	Location Information for GPRS	7.6.2.30a
Access connection status	7.6.9.3	Location update type	7.6.9.6
Access signalling information	7.6.9.5	Long Forwarded to Number	7.6.2.22A
Additional Absent Subscriber Diagnostic SM	7.6.8.12	Long FTN Supported	7.6.2.22B
Additional LCS Capability Sets	7.6.11.25		
Additional Location Estimate	7.6.11.21	Lower Layer Compatibility	7.6.3.42
Additional number	7.6.2.46	LSA Information	7.6.3.56
Additional signal info	7.6.9.10	LSA Information Withdraw	7.6.3.58
Additional SM Delivery Outcome	7.6.8.11	MC Information	7.6.4.48
Age Indicator	7.6.3.72	MC Subscription Data	7.6.4.47
Alert Reason	7.6.8.8	Mobile Not Reachable Reason	7.6.3.51
Alert Reason Indicator	7.6.8.10	Modification request for CSI	7.6.3.81
Alerting Pattern	7.6.3.44	Modification request for SS Information	7.6.3.82
All GPRS Data	7.6.3.53	More Messages To Send	7.6.8.7
All Information Sent	7.6.1.5	MS ISDN	7.6.2.17
AN apdu	7.6.9.1	MSC number	7.6.2.11
APN	7.6.2.42	MSISdn Alert	7.6.2.29
Authentication set list	7.6.7.1	Multicall Bearer Information	7.6.2.52

B-subscriber-Address	7.6.2.36	Multiple Bearer Requested	7.6.2.53
B-subscriber-Number	7.6.2.48	Multiple Bearer Not Supported	7.6.2.54
B-subscriber-subaddress	7.6.2.49	MWD-status	7.6.8.3
Basic-Service-Group	7.6.4.40	NbrUser	7.6.4.45
Bearer-service	7.6.4.38	Network-Access-Mode	7.6.3.50
BSSMAP-Service-Handover	7.6.6.5	Network-node-number	7.6.2.43
BSSMAP-Service-Handover-List	7.6.6.5A	Network-resources	7.6.10.1
Call-Barring-Data	7.6.3.83	Network-signal-information	7.6.9.8
Call-barring-feature	7.6.4.19	New-password	7.6.4.20
Call-barring-information	7.6.4.18	No-reply-condition-timer	7.6.4.7
Call-barring-support-indicator	7.6.3.92	North-American-Equal-Access-preferred-Carrier-Id	7.6.2.34
Call-Direction	7.6.5.8	Number-Portability-Status	7.6.5.14
Call-Forwarding-Data	7.6.3.84	ODB-Data	7.6.3.85
Call-Info	7.6.9.9	ODB-General-Data	7.6.3.9
Call-reference	7.6.5.1	ODB-HPLMN-Specific-Data	7.6.3.10
Call-Termination-Indicator	7.6.3.67	OMC-Id	7.6.2.18
Called-number	7.6.2.24	Originally-dialled-number	7.6.2.26
Calling-number	7.6.2.25	Originating-entity-number	7.6.2.10
CAMEL-Subscription-Info	7.6.3.78	Override-Category	7.6.4.4
CAMEL-Subscription-Info-Withdraw	7.6.3.38	P-TMSI	7.6.2.47
Cancellation-Type	7.6.3.52	PDP-Address	7.6.2.45
Category	7.6.3.1	PDP-Context-identifier	7.6.3.55
CCBS-Feature	7.6.5.8	PDP-Type	7.6.2.44
CCBS-Request-State	7.6.4.49	Positioning-Data	7.6.11.11A
Channel-Type	7.6.5.9	Pre-paging-supported	7.6.5.15
Chosen-Channel	7.6.5.10	Previous-location-area-Id	7.6.2.4
Chosen-Radio-Resource-Information	7.6.6.10B	Protocol-Id	7.6.9.7
Ciphering-mode	7.6.7.7	Provider-error	7.6.1.3
Eksn	7.6.7.5	PS-LCS-Not-Supported-by-UE	7.6.11.10
CLI-Restriction	7.6.4.5	QoS-Subscribed	7.6.3.47
CM-service-type	7.6.9.2	Radio-Resource-Information	7.6.6.10
Complete-Data-List-Included	7.6.3.54	Radio-Resource-List	7.6.6.10A
CS-Allocation-Retention-priority	7.6.3.87	RANAP-Service-Handover	7.6.6.6
CS-LCS-Not-Supported-by-UE	7.6.11.9	Rand	7.6.7.2

CUG feature	7.6.3.26	LCS-Reference-Number	7.6.11.23
CUG-index	7.6.3.25	Regional-Subscription-Data	7.6.3.11
CUG-info	7.6.3.22	Regional-Subscription-Response	7.6.3.12
CUG-interlock	7.6.3.24	Relocation-Number-List	7.6.2.19A
CUG-Outgoing-Access-indicator	7.6.3.8	Requested-Info	7.6.3.31
CUG-subscription	7.6.3.23	Requested-Subscription-Info	7.6.3.86
CUG-Subscription-Flag	7.6.3.37	Roaming-number	7.6.2.19
Current-location-area-Id	7.6.2.6	Roaming-Restricted-In-SGSN-Due-To-Unsupported-Feature	7.6.3.49
Current-password	7.6.4.21	Roaming-Restriction-Due-To-Unsupported-Feature	7.6.3.13
Deferred-MT-LR-Data	7.6.11.3	Current-Security-Context	7.6.7.8
Deferred-MT-LR-Response-Indicator	7.6.11.2	Selected-RAB-ID	7.6.2.56
eMLPP-Information	7.6.4.41	Service-centre-address	7.6.2.27
Encryption-Information	7.6.6.9	Serving-Cell-Id	7.6.2.37
Equipment-status	7.6.3.2	SGSN-address	7.6.2.39
Extensible-Basic-Service-Group	7.6.3.5	SGSN-CAMEL-Subscription-Info	7.6.3.75
Extensible-Bearer-service	7.6.3.3	SGSN-number	7.6.2.38
Extensible-Call-barring-feature	7.6.3.21	SIWF-Number	7.6.2.35
Extensible-Call-barring-information	7.6.3.20	SoLSA-Support-Indicator	7.6.3.57
Extensible-Call-barring-information-for-CSE	7.6.3.79	SM-Delivery-Outcome	7.6.8.6
Extensible-Forwarding-feature	7.6.3.16	SM-RP-DA	7.6.8.1
Extensible-Forwarding-info	7.6.3.15	SM-RP-MTI	7.6.8.16
Extensible-Forwarding-information-for-CSE	7.6.3.80	SM-RP-OA	7.6.8.2
Extensible-Forwarding-Options	7.6.3.18	SM-RP-PRI	7.6.8.5
Extensible-No-reply-condition-timer	7.6.3.19	SM-RP-SMEA	7.6.8.17
Extensible-QoS-Subscribed	7.6.3.74	SM-RP-UI	7.6.8.4
Extensible-SS-Data	7.6.3.29	Sres	7.6.7.3
Extensible-SS-Info	7.6.3.14	SS-Code	7.6.4.1
Extensible-SS-Status	7.6.3.17	SS-Data	7.6.4.3
Extensible-Teleservice	7.6.3.4	SS-Event	7.6.4.42
External-Signal-Information	7.6.9.4	SS-Event-Data	7.6.4.43
Failure-Cause	7.6.7.9	SS-Info	7.6.4.24
Forwarded-to-number	7.6.2.22	SS-Status	7.6.4.2

Forwarded-to-subaddress	7.6.2.23	Stored-location-area-Id	7.6.2.5
Forwarding-feature	7.6.4.16	Subscriber-State	7.6.3.30
Forwarding-information	7.6.4.15	Subscriber-Status	7.6.3.7
Forwarding-Options	7.6.4.6	Super-Charger-Supported-in-HLR	7.6.3.70
GERAN-Classmark	7.6.6.4		
GGSN-address	7.6.2.40	Super-Charger-Supported-in-Serving- Network-Entity	7.6.3.71
GGSN-number	7.6.2.41	Offered-Camel4-CSIs	7.6.3.36D
GMSC-CAMEL-Subscription-Info	7.6.3.34	Offered-Camel4-CSIs-in-interrogating- node	7.6.3.36E
GPRS-enhancements-support-indicator	7.6.3.73	Offered-Camel4-CSIs-in-VMSC	7.6.3.36F
GPRS-Node-Indicator	7.6.8.14	Offered-Camel4-CSIs-in-VLR	7.6.3.36B
GPRS-Subscription-Data	7.6.3.46	Offered-Camel4-CSIs-in-SGSN	7.6.3.36C
GPRS-Subscription-Data-Withdraw	7.6.3.45	Offered-Camel4-Functionalities	7.6.3.36G
		Supported-CAMEL-Phases	7.6.3.36H
GPRS-Support-Indicator	7.6.8.15	Supported-CAMEL-Phases-in-VLR	7.6.3.36
Group-Id	7.6.2.33	Supported-CAMEL-Phases-in-SGSN	7.6.3.36A
		Supported-CAMEL-Phases-in- interrogating-node	7.6.3.36I
GSM-bearer-capability	7.6.3.6	Supported-GAD-Shapes	7.6.11.20
gsmSCF-Address	7.6.2.58	Supported-LCS-Capability-Sets	7.6.11.17
gsmSCF-Initiated-Call	7.6.3.e	Suppress-Incoming-Call-Barring	7.6.3.b
Guidance-information	7.6.4.22	Suppress-T-CSI	7.6.3.33
Handover-number	7.6.2.21	Suppress-VT-CSI	7.6.3.a
High-Layer-Compatibility	7.6.3.43	Suppression-of-Announcement	7.6.3.32
HLR-Id	7.6.2.15	Target-cell-Id	7.6.2.8
HLR-number	7.6.2.13	Target-location-area-Id	7.6.2.7
HO-Number-Not-Required	7.6.6.7	Target-RNC-Id	7.6.2.8A
IMEI	7.6.2.3	Target-MSC-number	7.6.2.12
IMSI	7.6.2.1	Teleservice	7.6.4.39
Integrity-Protection-Information	7.6.6.8	TMSI	7.6.2.2
Inter-CUG-options	7.6.3.27	Trace-reference	7.6.10.2
Intra-CUG-restrictions	7.6.3.28	Trace-type	7.6.10.3
		UESBI	7.6.6.20
Invoke-Id	7.6.1.1	User-error	7.6.1.4
ISDN-Bearer-Capability	7.6.3.41	USSD-Data-Coding-Scheme	7.6.4.36

IST-Alert-Timer	7.6.3.66	USSD-String	7.6.4.37
IST-Information-Withdrawn	7.6.3.68	UU-Data	7.6.5.12
IST-Support-Indicator	7.6.3.69	UUS-CF-Interaction	7.6.5.13
LCS-Codeword	7.6.11.18	VBS-Data	7.6.3.40
LCS-Information	7.6.3.60	VGCS-Data	7.6.3.39
LCS-Service-Type-Id	7.6.11.15	VLR-CAMEL-Subscription-Info	7.6.3.35
Ke	7.6.7.4	VLR-number	7.6.2.14
Linked-Id	7.6.1.2	VPLMN-address-allowed	7.6.3.48
LMSI	7.6.2.16	Zone-Code	7.6.2.28
Location-Information	7.6.2.30		

CHANGE REQUEST

⌘ **29.002 CR 648** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Correction of wrong AC name in the table in 17.1.6		
Source:	⌘ CN4		
Work item code:	⌘ TEI_6	Date:	⌘ 08/072003
Category:	⌘ D	Release:	⌘ Rel-6
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 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:	⌘ The table in subclause 17.1.6 refers to an AC name "ImmediateTerminationContext". The correct name (as shown in subclause 17.3.2.45) is "serviceTerminationContext"		
Summary of change:	⌘ Replace the wrong AC name with the right one!		
Consequences if not approved:	⌘ Confusion for readers of subclause 17.1.6		

Clauses affected:	⌘ 17.1.6										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	
Y	N										
	X										
	X										
	X										
Other comments:	⌘ This error exists in Release 99, Release 4 & Release 5, but it is not seen as being severe enough to justify a correction to those releases.										

17.1.6 Application Contexts

The following informative table lists the latest versions of the Application Contexts used in this specification, with the operations used by them and, where applicable, whether or not the operation description is exactly the same as for previous versions. Information in 17.6 & 17.7 relates only to the ACs in this table.

AC Name	AC Version	Operations Used	Comments
locationCancellationContext	v3	cancelLocation	
equipmentMngtContext	V3	checkIMEI	
imsiRetrievalContext	v2	sendIMSI	
infoRetrievalContext	v3	sendAuthenticationInfo	
interVlrInfoRetrievalContext	v3	sendIdentification	
handoverControlContext	v3	prepareHandover forwardAccessSignalling sendEndSignal processAccessSignalling prepareSubsequentHandover	the syntax of this operation has been extended in comparison with release 98 version
mwdMngtContext	v3	readyForSM	
msPurgingContext	v3	purgeMS	
shortMsgAlertContext	v2	alertServiceCentre	
resetContext	v2	reset	
networkUnstructuredSsContext	v2	processUnstructuredSS-Request unstructuredSS-Request unstructuredSS-Notify	
tracingContext	v3	activateTraceMode deactivateTraceMode	
networkFunctionalSsContext	v2	registerSS eraseSS activateSS deactivateSS registerPassword interrogateSS getPassword	
shortMsgMO-RelayContext	v3	mo-forwardSM	
shortMsgMT-RelayContext	v3	mt-forwardSM	
shortMsgGatewayContext	v3	sendRoutingInfoForSM reportSM-DeliveryStatus InformServiceCentre	the syntax of this operation has been extended in comparison with release 96 version
networkLocUpContext	v3	updateLocation forwardCheckSs-Indication restoreData insertSubscriberData activateTraceMode	the syntax is the same in v1 & v2
gprsLocationUpdateContext	v3	updateGprsLocation insertSubscriberData activateTraceMode	
subscriberDataMngtContext	v3	insertSubscriberData deleteSubscriberData	
roamingNumberEnquiryContext	v3	provideRoamingNumber	
locationInfoRetrievalContext	v3	sendRoutingInfo	
gprsNotifyContext	v3	noteMsPresentForGprs	
gprsLocationInfoRetrievalContext	v4	sendRoutingInfoForGprs	
failureReportContext	v3	failureReport	
callControlTransferContext	v4	resumeCallHandling	
subscriberInfoEnquiryContext	v3	provideSubscriberInfo	
anyTimeEnquiryContext	v3	anyTimeInterrogation	
anyTimeInfoHandlingContext	v3	anyTimeSubscriptionInterrogation anyTimeModification	
ss-InvocationNotificationContext	v3	ss-InvocationNotification	
siWFSAIlocationContext	v3	provideSIWFSAIlocation	

AC Name	AC Version	Operations Used	Comments
		sIWFSSignallingModify	
groupCallControlContext	v3	prepareGroupCall processGroupCallSignalling forwardGroupCallSignalling sendGroupCallEndSignal	
reportingContext	v3	setReportingState statusReport remoteUserFree	
callCompletionContext	v3	registerCC-Entry eraseCC-Entry	
istAlertingContext	v3	istAlert	
ImmediateServiceTerminationContext	v3	istCommand	
locationSvcEnquiryContext	v3	provideSubscriberLocation subscriberLocationReport	
locationSvcGatewayContext	v3	sendRoutingInfoForLCS	
mm-EventReportingContext	v3	noteMM-Event	
subscriberDataModificationNotificationContext	v3	noteSubscriberDataModified	
authenticationFailureReportContext	v3	authenticationFailureReport	
secureTransportHandlingContext	v3	secureTransportClass1 secureTransportClass2 secureTransportClass3 secureTransportClass4	

CHANGE REQUEST

⌘ **29.002 CR 649** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Correction of References		
Source:	⌘ CN4		
Work item code:	⌘ TEI6	Date:	⌘ 04/08/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ To correct the reference to Charging Characteristics definition		
Summary of change:	⌘ replace 32.015 with 32.215		
Consequences if not approved:	⌘ incorrect references		

Clauses affected:	⌘ 7.6.2.55, 17.7.1										
Other specs affected:	<table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
Other comments:	⌘										

How to create CRs using this form:

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

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

7.6.2.55 PDP-Charging Characteristics

This parameter indicates the charging characteristics associated with a specific PDP context as defined in 3GPP TS 32.2015.

.....

17.7.1 Mobile Service data types

.....

```
ChargingCharacteristics ::= OCTET STRING (SIZE (2))  
-- Octets are coded according to 3GPP TS 32.2015.
```

CHANGE REQUEST

⌘ **29.002 CR 650** ⌘ rev **1** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Add SGSN, GGSN, GMLC, gsmSCF, NPLR and AuC to network resource parameter		
Source:	⌘ CN4		
Work item code:	⌘ TEI-6	Date:	⌘ 07/08/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ When the system failure as one of user error is returned to originating MAP node, the system failure can indicate the node information by use of the network resource parameter where a problem is detected during the MAP signal processing. However, a value to be chosen for network resource parameter does not cover all possible entities that a failure might occur.
Summary of change:	⌘ - Add additional network resource parameter in order to indicate SGSN, GGSN, GMLC, gsmSCF, NPLR and AuC as the erroneous entity.
Consequences if not approved:	⌘ The network resource parameter cannot indicate the appropriate network resouoce in some MAP operation. For example, GPRS related operation, LCS related operation and so on. This makes it impassible to utilize the functionality of system failure handling.

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

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

****** First modified section ******

7.6 Definition of parameters

Following is an alphabetic list of parameters used in the common MAP-services in clause 7.3:

Application context name	7.3.1	Refuse reason	7.3.1
Destination address	7.3.1	Release method	7.3.2
Destination reference	7.3.1	Responding address	7.3.1
Diagnostic information	7.3.4	Result	7.3.1
Originating address	7.3.1	Source	7.3.5
Originating reference	7.3.1	Specific information	7.3.1/7.3.2/7.3.4
Problem diagnostic	7.3.6	User reason	7.3.4
Provider reason	7.3.5		

Following is an alphabetic list of parameters contained in this clause:

Absent Subscriber Diagnostic SM	7.6.8.9	Location Information for GPRS	7.6.2.30a
Access connection status	7.6.9.3	Location update type	7.6.9.6
Access signalling information	7.6.9.5	Long Forwarded-to Number	7.6.2.22A
Additional Absent Subscriber Diagnostic SM	7.6.8.12	Long FTN Supported	7.6.2.22B
Additional LCS Capability Sets	7.6.11.25		
Additional Location Estimate	7.6.11.21	Lower Layer Compatibility	7.6.3.42
Additional Network resources	7.6.10.X	LSA Information	7.6.3.56
Additional number	7.6.2.46	LSA Information Withdraw	7.6.3.58
Additional signal info	7.6.9.10	MC Information	7.6.4.48
Additional SM Delivery Outcome	7.6.8.11	MC Subscription Data	7.6.4.47
Age Indicator	7.6.3.72	Mobile Not Reachable Reason	7.6.3.51
Alert Reason	7.6.8.8	Modification request for CSI	7.6.3.81
Alert Reason Indicator	7.6.8.10	Modification request for SS Information	7.6.3.82
Alerting Pattern	7.6.3.44	More Messages To Send	7.6.8.7
All GPRS Data	7.6.3.53	MS ISDN	7.6.2.17
All Information Sent	7.6.1.5	MSC number	7.6.2.11
AN-apdu	7.6.9.1	MSIsdn-Alert	7.6.2.29
APN	7.6.2.42	Multicall Bearer Information	7.6.2.52
Authentication set list	7.6.7.1	Multiple Bearer Requested	7.6.2.53
B-subscriber Address	7.6.2.36	Multiple Bearer Not Supported	7.6.2.54
B subscriber Number	7.6.2.48	MWD status	7.6.8.3
B subscriber subaddress	7.6.2.49	NbrUser	7.6.4.45
Basic Service Group	7.6.4.40	Network Access Mode	7.6.3.50
Bearer service	7.6.4.38	Network node number	7.6.2.43
BSSMAP Service Handover	7.6.6.5	Network resources	7.6.10.1
BSSMAP Service Handover List	7.6.6.5A	Network signal information	7.6.9.8
Call Barring Data	7.6.3.83	New password	7.6.4.20
Call barring feature	7.6.4.19	No reply condition timer	7.6.4.7
Call barring information	7.6.4.18	North American Equal Accesspreferred	7.6.2.34
Call barring support indicator	7.6.3.92	Carrier Id	
Call Direction	7.6.5.8	Number Portability Status	7.6.5.14
Call Forwarding Data	7.6.3.84	ODB Data	7.6.3.85
Call Info	7.6.9.9	ODB General Data	7.6.3.9
Call reference	7.6.5.1	ODB HPLMN Specific Data	7.6.3.10
Call Termination Indicator	7.6.3.67	OMC Id	7.6.2.18
Called number	7.6.2.24	Originally dialled number	7.6.2.26
Calling number	7.6.2.25	Originating entity number	7.6.2.10
CAMEL Subscription Info	7.6.3.78	Override Category	7.6.4.4
CAMEL Subscription Info Withdraw	7.6.3.38	P-TMSI	7.6.2.47
Cancellation Type	7.6.3.52	PDP-Address	7.6.2.45
Category	7.6.3.1	PDP-Context identifier	7.6.3.55

CCBS Feature	7.6.5.8	PDP-Type	7.6.2.44
CCBS Request State	7.6.4.49	Positioning Data	7.6.11.11A
Channel Type	7.6.5.9	Pre-paging supported	7.6.5.15
Chosen Channel	7.6.5.10	Previous location area Id	7.6.2.4
Chosen Radio Resource Information	7.6.6.10B	Protocol Id	7.6.9.7
Ciphering mode	7.6.7.7	Provider error	7.6.1.3
Cksn	7.6.7.5	PS LCS Not Supported by UE	7.6.11.10
CLI Restriction	7.6.4.5	QoS-Subscribed	7.6.3.47
CM service type	7.6.9.2	Radio Resource Information	7.6.6.10
Complete Data List Included	7.6.3.54	Radio Resource List	7.6.6.10A
CS Allocation Retention priority	7.6.3.87	RANAP Service Handover	7.6.6.6
CS LCS Not Supported by UE	7.6.11.9	Rand	7.6.7.2
CUG feature	7.6.3.26	LCS-Reference Number	7.6.11.23
CUG index	7.6.3.25	Regional Subscription Data	7.6.3.11
CUG info	7.6.3.22	Regional Subscription Response	7.6.3.12
CUG interlock	7.6.3.24	Relocation Number List	7.6.2.19A
CUG Outgoing Access indicator	7.6.3.8	Requested Info	7.6.3.31
CUG subscription	7.6.3.23	Requested Subscription Info	7.6.3.86
CUG Subscription Flag	7.6.3.37	Roaming number	7.6.2.19
Current location area Id	7.6.2.6	Roaming Restricted In SGSN Due To Unsupported Feature	7.6.3.49
Current password	7.6.4.21	Roaming Restriction Due To Unsupported Feature	7.6.3.13
Deferred MT-LR Data	7.6.11.3	Current Security Context	7.6.7.8
Deferred MT-LR Response Indicator	7.6.11.2	Selected RAB ID	7.6.2.56
eMLPP Information	7.6.4.41	Service centre address	7.6.2.27
Encryption Information	7.6.6.9	Serving Cell Id	7.6.2.37
Equipment status	7.6.3.2	SGSN address	7.6.2.39
Extensible Basic Service Group	7.6.3.5	SGSN CAMEL Subscription Info	7.6.3.75
Extensible Bearer service	7.6.3.3	SGSN number	7.6.2.38
Extensible Call barring feature	7.6.3.21	SIWF Number	7.6.2.35
Extensible Call barring information	7.6.3.20	SoLSA Support Indicator	7.6.3.57
Extensible Call barring information for CSE	7.6.3.79	SM Delivery Outcome	7.6.8.6
Extensible Forwarding feature	7.6.3.16	SM-RP-DA	7.6.8.1
Extensible Forwarding info	7.6.3.15	SM-RP-MTI	7.6.8.16
Extensible Forwarding information for CSE	7.6.3.80	SM-RP-OA	7.6.8.2
Extensible Forwarding Options	7.6.3.18	SM-RP-PRI	7.6.8.5
Extensible No reply condition timer	7.6.3.19	SM-RP-SMEA	7.6.8.17
Extensible QoS-Subscribed	7.6.3.74	SM-RP-UI	7.6.8.4
Extensible SS-Data	7.6.3.29	Sres	7.6.7.3
Extensible SS-Info	7.6.3.14	SS-Code	7.6.4.1
Extensible SS-Status	7.6.3.17	SS-Data	7.6.4.3
Extensible Teleservice	7.6.3.4	SS-Event	7.6.4.42
External Signal Information	7.6.9.4	SS-Event-Data	7.6.4.43
Failure Cause	7.6.7.9	SS-Info	7.6.4.24
Forwarded-to number	7.6.2.22	SS-Status	7.6.4.2
Forwarded-to subaddress	7.6.2.23	Stored location area Id	7.6.2.5
Forwarding feature	7.6.4.16	Subscriber State	7.6.3.30
Forwarding information	7.6.4.15	Subscriber Status	7.6.3.7
Forwarding Options	7.6.4.6	Super-Charger Supported in HLR	7.6.3.70
GERAN Classmark	7.6.6.4	Super-Charger Supported in Serving Network Entity	7.6.3.71
GGSN address	7.6.2.40	Offered Camel4 CSIs	7.6.3.36D
GGSN number	7.6.2.41	Offered Camel4 CSIs in interrogating node	7.6.3.36E
GMSC CAMEL Subscription Info	7.6.3.34	Offered Camel4 CSIs in VMSC	7.6.3.36F
GPRS enhancements support indicator	7.6.3.73	Offered Camel4 CSIs in VLR	7.6.3.36B
GPRS Node Indicator	7.6.8.14	Offered Camel4 CSIs in SGSN	7.6.3.36C
GPRS Subscription Data	7.6.3.46	Offered Camel4 Functionalities	7.6.3.36G
GPRS Subscription Data Withdraw	7.6.3.45	Supported CAMEL Phases	7.6.3.36H
GPRS Support Indicator	7.6.8.15	Supported CAMEL Phases in VLR	7.6.3.36
Group Id	7.6.2.33	Supported CAMEL Phases in SGSN	7.6.3.36A
GSM bearer capability	7.6.3.6	Supported CAMEL Phases in interrogating node	7.6.3.36I
gsmSCF Address	7.6.2.58	Supported GAD Shapes	7.6.11.20
		Supported LCS Capability Sets	7.6.11.17

gsmSCF Initiated Call	7.6.3.c	Suppress Incoming Call Barring	7.6.3.b
Guidance information	7.6.4.22	Suppress T-CSI	7.6.3.33
Handover number	7.6.2.21	Suppress VT-CSI	7.6.3.a
High Layer Compatibility	7.6.3.43	Suppression of Announcement	7.6.3.32
HLR Id	7.6.2.15	Target cell Id	7.6.2.8
HLR number	7.6.2.13	Target location area Id	7.6.2.7
HO-Number Not Required	7.6.6.7	Target RNC Id	7.6.2.8A
IMEI	7.6.2.3	Target MSC number	7.6.2.12
IMSI	7.6.2.1	Teleservice	7.6.4.39
Integrity Protection Information	7.6.6.8	TMSI	7.6.2.2
Inter CUG options	7.6.3.27	Trace reference	7.6.10.2
Intra CUG restrictions	7.6.3.28	Trace type	7.6.10.3
		UESBI	7.6.6.20
Invoke Id	7.6.1.1	User error	7.6.1.4
ISDN Bearer Capability	7.6.3.41	USSD Data Coding Scheme	7.6.4.36
IST Alert Timer	7.6.3.66	USSD String	7.6.4.37
IST Information Withdrawn	7.6.3.68	UU Data	7.6.5.12
IST Support Indicator	7.6.3.69	UUS CF Interaction	7.6.5.13
LCS Codeword	7.6.11.18	VBS Data	7.6.3.40
LCS Information	7.6.3.60	VGCS Data	7.6.3.39
LCS Service Type Id	7.6.11.15	VLR CAMEL Subscription Info	7.6.3.35
Kc	7.6.7.4	VLR number	7.6.2.14
Linked Id	7.6.1.2	VPLMN address allowed	7.6.3.48
LMSI	7.6.2.16	Zone Code	7.6.2.28
Location Information	7.6.2.30		

****** Next modified section ******

7.6.1.4 User error

This parameter can take values as follows:

NOTE: The values are grouped in order to improve readability; the grouping has no other significance.

a) Generic error:

- system failure, i.e. a task cannot be performed because of a problem in another entity. The type of entity or network resource may be indicated by use of the network resource parameter [or additional network resource parameter](#);
- data missing, i.e. an optional parameter required by the context is missing;
- unexpected data value, i.e. the data type is formally correct but its value or presence is unexpected in the current context;
- resource limitation;
- initiating release, i.e. the receiving entity has started the release procedure;
- facility not supported, i.e. the requested facility is not supported by the PLMN with detailed reasons as follows:
 - Shape of location estimate not supported;
 - Needed LCS capability not supported in serving node;
- incompatible terminal, i.e. the requested facility is not supported by the terminal.

****** Next modified section ******

7.6.10 System operations parameters

7.6.10.1 Network resources

This parameter refers to a class or type of network resource:

- PLMN;
- HLR;
- VLR (current or previous);
- MSC (controlling or current);
- EIR;
- radio sub-system.

7.6.10.2 Trace reference

This parameter represents a reference associated with a tracing request. The parameter is managed by OMC.

7.6.10.3 Trace type

This parameter identifies the type of trace. Trace types are fully defined in GSM 12.08.

[7.6.10.X Additional network resources](#)

[This parameter refers to a class or type of network resource:](#)

- [SGSN](#);
- [GGSN](#);
- [GMLC](#);
- [gsmSCF](#);
- [NPLR](#);
- [AuC](#).

****** Next modified section ******

17.3.3 ASN.1 Module for application-context-names

The following ASN.1 module summarises the application-context-name assigned to MAP application-contexts.

.....

```
SystemFailureParam ::= CHOICE {
    networkResource                NetworkResource,
    -- networkResource must not be used in version 3
    extensibleSystemFailureParam   ExtensibleSystemFailureParam
    -- extensibleSystemFailureParam must not be used in version <3
}
```

```
ExtensibleSystemFailureParam ::= SEQUENCE {  
    networkResource      NetworkResource      OPTIONAL,  
    extensionContainer   ExtensionContainer   OPTIONAL,  
    .../..  
    additionalNetworkResource AdditionalNetworkResource OPTIONAL }
```

.....

```
NetworkResource ::= ENUMERATED {  
    plmn (0),  
    hlr (1),  
    vlr (2),  
    pvlr (3),  
    controllingMSC (4),  
    vmsc (5),  
    eir (6),  
    rss (7)}
```

```
AdditionalNetworkResource ::= ENUMERATED {  
    sgsn (0),  
    ggsn (1),  
    gmlc (2),  
    gsmSCF (3),  
    nplr (4),  
    auc (5)  
    ...}  
-- if unknown value is received in AdditionalNetworkResource  
-- it shall be ignored.
```

CHANGE REQUEST

⌘ **29.002 CR 671** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘	SS-Barring Category
Source:	⌘	CN4
Work item code:	⌘	TEI6
		Date: ⌘ 18/08/2003
Category:	⌘	D
		Use <u>one</u> 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: ⌘ Rel-6 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘	To correct the comment against the SS-code boicExHC
Summary of change:	⌘	Add the word 'Country' after 'barring of outgoing international calls except those directed to the home PLMN'.
Consequences if not approved:	⌘	Missalignment between 23.088 and 29.002

Clauses affected:	⌘	17.7.5								
Other specs affected:	⌘	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
Other comments:	⌘									

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

17.7.5 Supplementary service codes

.....

allBarringSS	SS-Code ::= '10010000'B
-- all barring SS	
barringOfOutgoingCalls	SS-Code ::= '10010001'B
-- barring of outgoing calls	
baoc	SS-Code ::= '10010010'B
-- barring of all outgoing calls	
boic	SS-Code ::= '10010011'B
-- barring of outgoing international calls	
boicExHC	SS-Code ::= '10010100'B
-- barring of outgoing international calls except those directed	
-- to the home PLMN Country	
barringOfIncomingCalls	SS-Code ::= '10011001'B
-- barring of incoming calls	
baic	SS-Code ::= '10011010'B
-- barring of all incoming calls	
bicRoam	SS-Code ::= '10011011'B
-- barring of incoming calls when roaming outside home PLMN	
-- Country	

.....

CHANGE REQUEST

⌘ **29.002 CR 674** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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:	⌘ Positioning Data for UTRAN LCS		
Source:	⌘ CN4		
Work item code:	⌘ LCS2	Date:	⌘ 07/08/2003
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ In CR's 500r5 (Rel-5) and 568r4 (Rel-6), changes were approved to introduce the Positioning Data parameter into MAP messaging so that the parameter can be passed on to the GMLC and ultimately to provide that information to the PSAP in North America to meet FCC requirements. However, at that time only the GERAN case was addressed, following an agreement that only GERAN access would be addressed in R5, and that the equivalent changes for UTRAN access required more work and so could not be addressed in any release earlier than R6. This change now addresses the required changes to support the transport of the matching information from the UTRAN network. The data format for UTRAN is to be set as the same as that for the GERAN Access network, and so the parameter that was introduced in 500r5 and 568r4 can be re-used (the GMLC has no need to know which form of access the location estimate is coming from). However, because the definition of the parameter is currently in GERAN specs, it is against the working practices of 3GPP to reference this from UTRAN specifications. Therefore, to maintain a single definition of the parameter, the definition of the encoding of the parameter is moved into 29.002 so that both 49.031 and 25.413 can include a reference to a single definition and remove the possibility of duplication of definition which could result in misalignment between UTRAN and GERAN definitions.
Summary of change:	⌘ The restrictions on usage of Positioning Info as applying to just GERAN access are removed. The definition of the parameter is moved into 29.002.
Consequences if not approved:	⌘ FCC regulatory requirements for networks with UTRAN access are not met.

Clauses affected:	⌘	7.6.11.11A, 13A.2.3, 13A.3.3, 17.7.13										
Other specs affected:	⌘	<table border="1"><tr><td>Y</td><td>N</td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table>	Y	N	X			X		X	Other core specifications	⌘ 25.413 CR 586
		Y	N									
		X										
	X											
	X											
	Test specifications											
	O&M Specifications											
Other comments:	⌘											

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

7.6.11.11A Positioning Data

This parameter provides positioning data associated with a successful or unsuccessful location attempt for a target MS, ~~as described in 3GPP TS 49.031 [59a]~~. For GERAN this parameter contains positioning data as described in 3GPP TS 49.031 [59a]. For UTRAN this parameter contains positioning data as described in 3GPP TS 25.413 [120].

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

13A.2.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in 3GPP TS 23.271

Location Type

This parameter identifies the type of location information requested.

MLC Number

This is the E.164 number of the requesting GMLC.

LCS Client ID

This parameter provides information related to the identity of an LCS client.

Privacy Override

This parameter indicates if MS privacy is overridden by the LCS client when the GMLC and VMSC or SGSN for an MT-LR are in the same country.

IMSI

The IMSI is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

MSISDN

The MSISDN is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

LMSI

The LMSI shall be provided if previously supplied by the HLR. This parameter is only used in the case of the MT-LR for CS domain.

LCS Priority

This parameter indicates the priority of the location request.

LCS QoS

This parameter indicates the required quality of service in terms of response time and accuracy.

IMEI

Inclusion of the IMEI is optional.

Supported GAD Shapes

This parameter indicates which of the shapes defined in 3GPP TS 23.032 [122] are supported.

LCS-Reference Number

This parameter shall be included if a deferred mt-lr procedure is performed.

LCS Codeword

See definition in clause 7.6.11.18. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

LCS Service Type Id

See definition in clause 7.6.11.15. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

LCS Privacy Check

See definition in clause 7.6.11. The requirements for its and its components presence are specified in 3GPP TS 23.271 [26a].

Location Estimate

This parameter provides the location estimate if this is encoded in one of the supported geographical shapes. Otherwise this parameter shall consist of one octet, which shall be discarded by the receiving node.

Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. ~~It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].~~

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter. It may be sent only if the parameter Supported GAD Shapes has been received in the Provide Subscriber Location indication and the shape to be included is supported by the GMLC.

Deferred MT-LR Response Indicator

See definition in clause 7.6.11.2.

User error

This parameter is sent by the responder when the location request has failed or cannot proceed and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Facility Not Supported;
- Unidentified Subscriber;
- Illegal Subscriber;
- Illegal Equipment;
- Absent Subscriber (diagnostic information may also be provided);
- Unauthorised requesting network;
- Unauthorised LCS Client with detailed reason;
- Position method failure with detailed reason.

Provider error

These are defined in clause 7.6.1.

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

13A.3.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in 3GPP TS 23.271 [26a].

LCS Event

This parameter indicates the event that triggered the Subscriber Location Report.

LCS Client ID

This parameter provides information related to the identity of the recipient LCS client.

Network Node Number

See definition in clause 7.6.2. This parameter provides the address of the sending node.

IMSI

The IMSI shall be provided if available to the VMSC or SGSN.

MSISDN

The MSISDN shall be provided if available to the VMSC or SGSN.

NA-ESRD

If the target MS has originated an emergency service call in North America, the NA-ESRD shall be provided by the VMSC if available.

NA-ESRK

If the target MS has originated an emergency service call in North America, the NA-ESRK shall be provided by the VMSC if assigned.

IMEI

Inclusion of the IMEI is optional.

Location Estimate

This parameter provides the location estimate. The absence of this parameter implies that a location estimate was not available or could not be successfully obtained. If the obtained location estimate is not encoded in one of the supported geographical shapes then this parameter shall consist of one octet, which shall be discarded by the receiving node.

Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. **It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].**

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

LMSI

The LMSI may be provided if assigned by the VLR.

GPRS Node Indicator

See definition in clause 7.6.8. This presence of this parameter is mandatory only if the SGSN number is sent in the Network Node Number.

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter..

Deferred MT-LR Data

See definition in clause 7.6.11.3.

LCS-Reference Number

This parameter shall be included if the Subscriber Location Report is the reponse to a deferred MT location request.

User error

This parameter is sent by the responder when the received message contains an error, cannot be forwarded or stored for an LCS client or cannot be accepted for some other reason and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Resource Limitation;
- Unknown Subscriber;
- Unauthorised requesting network;
- Unknown or unreachable LCS Client.

Provider error

These are defined in clause 7.6.1.

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

17.7.13 Location service data types

...

<pre> PositioningDataInformation ::= OCTET STRING (SIZE (2..maxPositioningDataInformation)) -- Refers to the Positioning Data defined in 3GPP TS 49.031 <u>for GERAN or 3GPP TS 25.413-</u> -- <u>for UTRAN.</u> -- This is composed of 2 or more octets with an internal structure according to -- 3GPP TS 49.031 <u>for GERAN and 25.413 for UTRAN.</u> <u>- Note that the internal structure</u> -- <u>of the parameter is identical for GERAN and UTRAN, but the defined code points differ</u> -- <u>for GERAN and UTRAN to allow for Radio Technology specific location methods.</u> </pre>
--

CHANGE REQUEST

⌘ **29.010 CR 092** ⌘ rev **2** ⌘ Current version: **5.3.1** ⌘

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

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

Title:	⌘	Information transfer at MAP-E interface during inter MSC handover/relocation
Source:	⌘	CN4
Work item code:	⌘	TEI6
		Date: ⌘ 29/08/2003
Category:	⌘	F
		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>Use <u>one</u> of the following categories:</i></p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </div> <div style="width: 45%;"> <p><i>Use <u>one</u> of the following releases:</i></p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p> </div> </div>

Reason for change:	⌘	Currently there is no statement in any specification on the principle how information should be transferred on Inter MSC handover and SRNS relocation in MAP-E interface. There are statements about this information transfer in several specifications like 23.009, 29.010 and 48.008 (e.g. for SNA IE it is stated that it is provided only at MAP-E interface).
Summary of change:	⌘	<p>The following principle shall apply when new parameters need to be added for transfer on the E-interface:</p> <ol style="list-style-type: none"> 1. The parameters shall be added to be carried in the AN-APDU when they need to be forwarded to the target radio access network and the encapsulated protocol is the same as the protocol used at the interface between the target MSC and the target radio access network. 2. The parameters shall be added to be carried in a MAP message <ul style="list-style-type: none"> - when they need to be forwarded to the target radio access network and the encapsulated protocol is different from the protocol used at the interface between the target MSC and the target radio access network; - when they are required by the target MSC, but not to be forwarded to the target radio access network; or - when they are required by the target MSC for subsequent procedures and they cannot be derived from the message encapsulated in the AN-APDU.

Consequences if not approved: ⌘ There would not agreed principle in any specification that can be referred to when new information needs to be added to MAP-E interface.

Clauses affected: ⌘ 4.5, 4.6, 4.7, 4.8

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

Other comments: ⌘

How to create CRs using this form:

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Below is a brief summary:

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

First change

4.5 Inter-MSC Handover

The general principles of the handover procedures are given in 3GPP TS 23.009. 3GPP TS 29.010 gives the necessary information for interworking between the 3GPP TS 48.008 handover protocol and the 3GPP TS 29.002 MAP protocol.

The following principle shall apply when new parameters need to be added for transfer on the E-interface:

1. The parameters shall be added to be carried in the AN-APDU when they need to be forwarded to the target radio access network and the encapsulated protocol is the same as the protocol used at the interface between the target MSC and the target radio access network.
2. The parameters shall be added to be carried in a MAP message
 - when they need to be forwarded to the target radio access network and the encapsulated protocol is different from the protocol used at the interface between the target MSC and the target radio access network;
 - when they are required by the target MSC, but not to be forwarded to the target radio access network; or
 - when they are required by the target MSC for subsequent proceduresand they cannot be derived from the message encapsulated in the AN-APDU.

Second change

4.6 Inter-MSC Handover (UMTS to GSM)

The general principles of the handover procedures are given in 3GPP TS 23.009. 3GPP TS 29.010 gives the necessary information for interworking between the 3GPP TS 25.413 RANAP protocol, GSM handover procedures and the 3GPP TS 29.002 MAP protocol. The RANAP protocol is used between the RNS and the 3G-MSC.

The following three principles apply for the Inter-MSC handover UMTS to GSM:

The BSSMAP parameters required for Inter-MSC handover UMTS to GSM are generated as in GSM.

Received BSSMAP parameters, e.g. cause code or Handover command, are mapped to the appropriate RANAP parameters, e.g. cause code transparent container to source RNS.

When new parameters need to be added for transfer on the E-interface, the principles stated in the beginning of subclause 4.5 shall be followed.

Third change

4.7 Inter-MSC Handover (GSM to UMTS)

The general principles of the handover procedures are given in 3GPP TS 23.009. 3GPP TS 29.010 gives the necessary information for interworking between the 3GPP TS 25.413 RANAP protocol, GSM handover procedures and the 3GPP TS 29.002 MAP protocol. The RANAP protocol is used between the RNS and the 3G_MSC.

The following four principles apply for the Inter-MSC handover GSM to UMTS:

The BSSMAP parameters required for Inter-MSC handover GSM to UMTS are generated as in GSM.

Received RANAP parameters, e.g. cause code or transparent container, are mapped to the appropriate BSSMAP parameters, e.g. cause code or Handover command.

The RANAP parameters required for Inter-MSC handover GSM to UMTS are generated from received or stored GSM parameters.

[When new parameters need to be added for transfer on the E-interface, the principles stated in the beginning of subclause 4.5 shall be followed.](#)

Fourth change

4.8 Inter-MSC Relocation

The general principles of the relocation procedures are given in Technical Specification TS 23.009. TS 29.010 gives the necessary information for interworking between the TS 25.413 relocation protocol and the TS 29.002 MAP protocol.

For intra UMTS handovers, RANAP is carried over the MAP-E interface instead of BSSAP. Please refer to 3GPP TS 29.108.

[When new parameters need to be added for transfer on the E-interface, the principles stated in the beginning of subclause 4.5 shall be followed.](#)