3GPP TSG-T plenary meeting #19
Birmingham, UK, 12-14 March 2003

Tdoc TP-030017

Source: T3

Title: CRs to TS 11.11 and TS 51.011: Specification of the SIM ME Interface

Document for: Approval

This document contains the following change requests:

T3-Doc	Spec	CR	Rev	Cat	Phase	Subject	Version-Current	Version-New	WI
T3-030173	11.11	A134	-	F	R99	CR to delete Elementary File EF_RPLMNAcT, in accordance with TP-020168 from TP#16 in Marco Island.	8.9.0	8.10.0	TEI
T3-030145	51.011	017	-	F	Rel-4	Correction of reference to GSM 11.14 (Rel-4 is TS 51.014)	4.6.0	4.7.0	TEI
T3-030151	51.011	018	-	F	Rel-4	CR 51.011 Rel-4: Example for MMS connectivity parameters	4.6.0	4.7.0	TEI
T3-030174	51.011	019	-	F	Rel-4	CR to delete Elementary File EF_RPLMNAcT, in accordance with TP-020168 from T Plenary in Marco Island.	4.6.0	4.7.0	TEI

3GPP TSG-T3 Meeting #26
Lisbon, Portugal, 11-14 February 2003

Tdoc ⌘T3-030173
Revised T3-030158

CR-Form-v7

CHANGE REQUEST

⌘ **11.11** **CR** **A134** ⌘**rev** **-** ⌘ Current version: **8.9.0** ⌘

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

Proposed change affects: UICC apps⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	CR to delete Elementary File $EF_{RPLMNAcT}$, in accordance with TP-020168 from TP#16 in Marco Island.
Source:	⌘	TSG T3
Work item code:	⌘	TEI
Date:	⌘	12/02/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	It has been identified that File $EF_{RPLMNAcT}$ has inconsistent file identifiers in the specification, and TP#16 wrote an LS to CN1 in document TP-020168 requesting that T3 can delete the file from the specifications. CN1 minutes state the following regarding the LS: "Noted. CN1 agreed the proposal in principle but no CRs were presented to this meeting yet. CRs from interested companies were invited for the next CN1 meeting. TSG-T would like to delete USIM file RPLMN last used access technology since it seems to be needed only for GSM compact and the definition is incorrect anyway. If this is agreed then the outcome is that CN1 must change 23.122 to move this information storage from USIM to ME memory." The LS to CN1 noted that there may a corresponding change to TS 23.122.
Summary of change:	⌘	The references to $EF_{RPLMNAcT}$ are deleted everywhere in the specification, and the values of the file identifiers are set to "reserved, not to be used".
Consequences if not approved:	⌘	Inconsistencies within the specification, leading to confusion and misinterpretation.

Clauses affected:	⌘	10.3.7, 10.3.40, 10.7, 11, 11.2.1, 11.2.2, 11.5.22, Annex D, Annex J			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ TS 23.122, TS 51.011 (Rel-4), TS 31.102
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

10.3.7 EF_{SST} (SIM service table)

This EF indicates which services are allocated, and whether, if allocated, the service is activated. If a service is not allocated or not activated in the SIM, the ME shall not select this service.

Identifier: '6F38'	Structure: transparent	Mandatory
File size: X bytes, X ≥ 2	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	Services n°1 to n°4	M	1 byte
2	Services n°5 to n°8	M	1 byte
3	Services n°9 to n°12	O	1 byte
4	Services n°13 to n°16	O	1 byte
5	Services n°17 to n°20	O	1 byte
6	Services n°21 to n°24	O	1 byte
7	Services n°25 to n°28	O	1 byte
8	Services n°29 to n°32	O	1 byte
etc.			
X	Services (4X-3) to (4X)	O	1 byte

-Services

Contents:

Service n°1 : CHV1 disable function
Service n°2 : Abbreviated Dialling Numbers (ADN)
Service n°3 : Fixed Dialling Numbers (FDN)
Service n°4 : Short Message Storage (SMS)
Service n°5 : Advice of Charge (AoC)
Service n°6 : Capability Configuration Parameters (CCP)
Service n°7 : PLMN selector
Service n°8 : RFU
Service n°9 : MSISDN
Service n°10: Extension1
Service n°11: Extension2
Service n°12: SMS Parameters
Service n°13: Last Number Dialled (LND)
Service n°14: Cell Broadcast Message Identifier
Service n°15: Group Identifier Level 1
Service n°16: Group Identifier Level 2
Service n°17: Service Provider Name
Service n°18: Service Dialling Numbers (SDN)
Service n°19: Extension3
Service n°20: RFU
Service n°21: VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
Service n°22: VBS Group Identifier List (EF_{VBS} and EF_{VBSS})
Service n°23: enhanced Multi-Level Precedence and Pre-emption Service
Service n°24: Automatic Answer for eMLPP
Service n°25: Data download via SMS-CB
Service n°26: Data download via SMS-PP
Service n°27: Menu selection
Service n°28: Call control
Service n°29: Proactive SIM
Service n°30: Cell Broadcast Message Identifier Ranges
Service n°31: Barred Dialling Numbers (BDN)
Service n°32: Extension4
Service n°33: De-personalization Control Keys
Service n°34: Co-operative Network List
Service n°35: Short Message Status Reports
Service n°36: Network's indication of alerting in the MS
Service n°37: Mobile Originated Short Message control by SIM
Service n°38: GPRS
Service n°39: Image (IMG)
Service n°40: SoLSA (Support of Local Service Area)
Service n°41: USSD string data object supported in Call Control
Service n°42: RUN AT COMMAND command
Service n°43: User controlled PLMN Selector with Access Technology

Service n 44:	Operator controlled PLMN Selector with Access Technology
Service n 45	HPLMN Selector with Access Technology
Service n 46:	CPBCCH Information
Service n 47:	Investigation Scan
Service n°48:	Extended Capability Configuration Parameters
Service n°49:	MExE
Service n°50	~~RPLMN last used Access Technology~~Reserved and shall not be used

For a phase 2 SIM, the EF shall contain at least two bytes which correspond to the Phase 1 services. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of ETSI.

NOTE 1: Service N°8 was used in Phase 1 for Called Party Subaddress. To prevent any risk of incompatibility Service N°8 should not be reallocated.

NOTE 2: As the BDN service relies on the Call Control feature, service n°31 (BDN) should only be allocated and activated if service n°28 (Call control) is allocated and activated.

Coding:

2 bits are used to code each service:

first bit = 1: service allocated

first bit = 0: service not allocated

where the first bit is b1, b3, b5 or b7;

second bit = 1: service activated

second bit = 0: service not activated

where the second bit is b2, b4, b6 or b8.

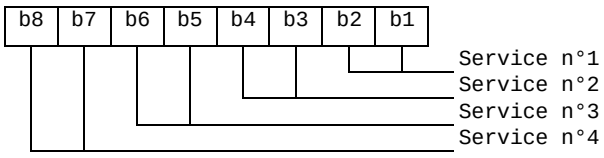
Service allocated means that the SIM has the capability to support the service. Service activated means that the service is available for the card holder (only valid if the service is allocated).

The following codings are possible:

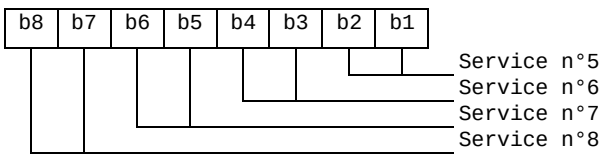
- first bit = 0: service not allocated, second bit has no meaning;
- first bit = 1 and second bit = 0: service allocated but not activated;
- first bit = 1 and second bit = 1: service allocated and activated.

The bits for services not yet defined shall be set to RFU. For coding of RFU see subclause 9.3.

First byte:



Second byte:



etc.

The following example of coding for the first byte means that service n°1 "CHV1-Disabling" is allocated but not activated:

b8	b7	b6	b5	b4	b3	b2	b1
X	X	X	X	X	X	0	1

If the SIM supports the FDN feature (FDN allocated and activated) a special mechanism shall exist in the SIM which invalidates both EF_{IMSI} and EF_{LOCI} once during each GSM session. This mechanism shall be invoked by the SIM automatically if FDN is enabled. This invalidation shall occur at least before the next command following selection of either EF. FDN is enabled when the ADN is invalidated or not activated.

If the SIM supports the BDN feature (BDN allocated and activated) a special mechanism shall exist in the SIM which invalidates both EF_{IMSI} and EF_{LOCI} once during each GSM session and which forbids the REHABILITATE command to rehabilitate both EF_{IMSI} and EF_{LOCI} until the PROFILE DOWNLOAD procedure is performed indicating that the ME supports the "Call control by SIM" facility. This mechanism shall be invoked by the SIM automatically if BDN is enabled. The invalidation of EF_{IMSI} and EF_{LOCI} shall occur at least before the next command following selection of either EF. BDN is enabled when the EF_{BDN} is not invalidated.

NEXT REVISED SECTION

10.3.40 VOID

~~$EF_{RPLMNAcT}$ (RPLMN Last used Access Technology)~~

~~This EF contains the last used access technology for the Registered PLMN, RPLMN. (see TS 23.122 [50]). This EF shall contain only one access technology.~~

~~NOTE: One access technology means that only one bit is set in the entire field.~~

~~If this EF does not exist on the SIM, then the MS shall assume that RPLMN access technology is GSM.~~

~~Identifier: '6F65'~~	~~Structure: transparent~~	~~Optional~~
~~File size: 2+X bytes~~	~~Update activity: High~~	

~~Access Conditions:~~
~~READ CHV1~~
~~UPDATE CHV1~~
~~INVALIDATE ADM~~
~~REHABILITATE ADM~~

~~Bytes~~	~~Description~~	~~M/O~~	~~Length~~
~~1 to 2~~	~~Access Technology of RPLMN~~	~~M~~	~~2 bytes~~
~~3 to 2+X~~	~~RFU~~	~~O~~	~~X bytes~~

~~Access Technology~~

~~Coding:~~

~~See $EF_{PLMNwAcT}$ for coding.~~

NEXT CHANGED SECTION

10.7 Files of GSM

This subclause contains a figure depicting the file structure of the SIM. DF_{GSM} shall be selected using the identifier '7F20'. If selection by this means fails, then DCS 1800 MEs shall, and optionally GSM MEs may then select DF_{GSM} with '7F21'.

NOTE 1: The selection of the GSM application using the identifier '7F21', if selection by means of the identifier '7F20' fails, is to ensure backwards compatibility with those Phase 1 SIMs which only support the DCS 1800 application using the Phase 1 directory $DF_{DCS1800}$ coded '7F21'.

NOTE 2: To ensure backwards compatibility with those Phase 1 DCS 1800 MEs which have no means to select DF_{GSM} two options have been specified. These options are given in GSM 09.91 [17].

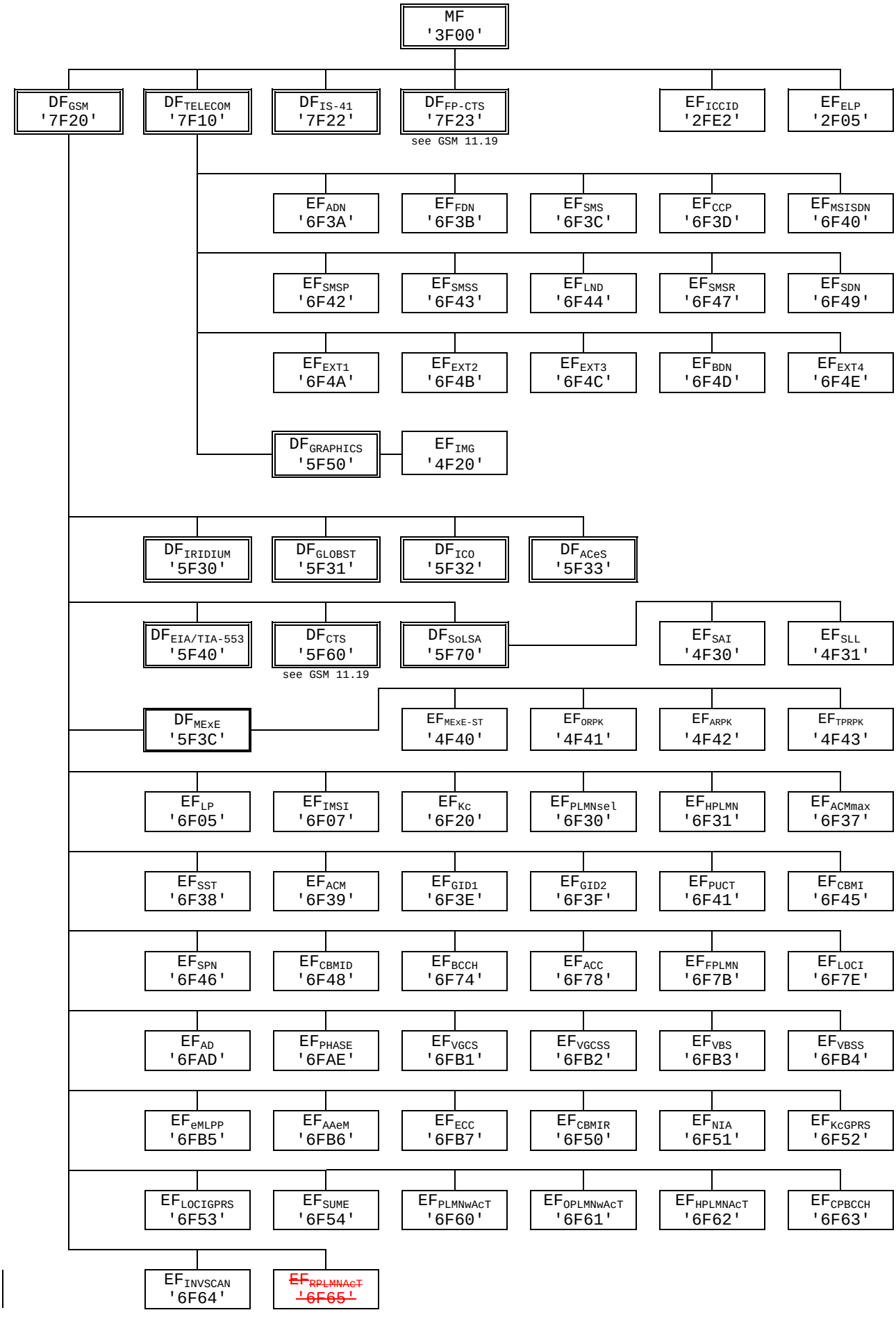

MF '3F00'
DFGSM '7F20'
DFTELECOM '7F10'
DFIS-41 '7F22'
DFFP-CTS '7F23'
see GSM 11.19
EFICCID '2FE2'
EFELP '2F05'
EFADN '6F3A'
EFFDN '6F3B'
EFSMS '6F3C'
EFCCP '6F3D'
EFMSISDN '6F40'
EFSMSP '6F42'
EFSMSS '6F43'
EFLND '6F44'
EFSMSR '6F47'
EFSDN '6F49'
EFEXT1 '6F4A'
EFEXT2 '6F4B'
EFEXT3 '6F4C'
EFBDN '6F4D'
EFEXT4 '6F4E'
DFGRAPHICS '5F50'
EFIMG '4F20'
DFIRIDIUM '5F30'
DFGLOBST '5F31'
DFICO '5F32'
DFACeS '5F33'
DFEIA/TIA-553 '5F40'
DFCTS '5F60'
see GSM 11.19
DFSoLSA '5F70'
EFSAI '4F30'
EFSLL '4F31'
DFMExE '5F3C'
EFMExE-ST '4F40'
EFORPK '4F41'
EFARPK '4F42'
EFTPRPK '4F43'
EFLP '6F05'
EFIMSI '6F07'
EFKc '6F20'
EFPLMNsel '6F30'
EFHPLMN '6F31'
EFACMmax '6F37'
EFSST '6F38'
EFACM '6F39'
EFGID1 '6F3E'
EFGID2 '6F3F'
EFPUCT '6F41'
EFCBMI '6F45'
EFSPN '6F46'
EFCBMID '6F48'
EFBCCH '6F74'
EFACC '6F78'
EFFPLMN '6F7B'
EFLOCI '6F7E'
EFAD '6FAD'
EFPHASE '6FAE'
EFVGCS '6FB1'
EFVGCSS '6FB2'
EFVBS '6FB3'
EFVBSS '6FB4'
EFeMLPP '6FB5'
EFAAeM '6FB6'
EFECC '6FB7'
EFCBMIR '6F50'
EFNIA '6F51'
EFKcGPRS '6F52'
EFLOCIGPRS '6F53'
EFSUME '6F54'
EFPLMNwAcT '6F60'
EFOPLMNwAcT '6F61'
EFHPLMNAcT '6F62'
EFCPBCCH '6F63'
EFINVSCAN '6F64'
EFRPLMNAcT '6F65'

Figure 8: File identifiers and directory structures of GSM

NEXT CHANGED SECTION

---

11 Application protocol

When involved in GSM administrative management operations, the SIM interfaces with appropriate terminal equipment. These operations are outside the scope of this standard.

When involved in GSM network operations the SIM interfaces with an ME with which messages are exchanged. A message can be a command or a response.

- A GSM command/response pair is a sequence consisting of a command and the associated response.
- A GSM procedure consists of one or more GSM command/response pairs which are used to perform all or part of an application-oriented task. A procedure shall be considered as a whole, that is to say that the corresponding task is achieved if and only if the procedure is completed. The ME shall ensure that, when operated according to the manufacturer's manual, any unspecified interruption of the sequence of command/response pairs which realize the procedure, leads to the abortion of the procedure itself.
- A GSM session of the SIM in the GSM application is the interval of time starting at the completion of the SIM initialization procedure and ending either with the start of the GSM session termination procedure, or at the first instant the link between the SIM and the ME is interrupted.

During the GSM network operation phase, the ME plays the role of the master and the SIM plays the role of the slave.

The SIM shall execute all GSM and SIM Application Toolkit commands or procedures in such a way as not to jeopardise, or cause suspension, of service provisioning to the user. This could occur if, for example, execution of the RUN GSM ALGORITHM is delayed in such a way which would result in the network denying or suspending service to the user.

Some procedures at the SIM/ME interface require MMI interactions. The descriptions hereafter do not intend to infer any specific implementation of the corresponding MMI. When MMI interaction is required, it is marked "MMI" in the list given below.

Some procedures are not clearly user dependent. They are directly caused by the interaction of the MS and the network. Such procedures are marked "NET" in the list given below.

Some procedures are automatically initiated by the ME. They are marked "ME" in the list given below.

The list of procedures at the SIM/ME interface in GSM network operation is as follows:

General Procedures:

- Reading an EF ME
- Updating an EF ME
- Increasing an EF ME

SIM management procedures:

- SIM initialization ME
- GSM session termination ME
- Emergency call codes request ME
- Extended language preference request ME

- Language preference request ME
- Administrative information request ME
- SIM service table request ME
- SIM phase request ME

CHV related procedures:

- CHV verification MMI
- CHV value substitution MMI
- CHV disabling MMI
- CHV enabling MMI
- CHV unblocking MMI

GSM security related procedures:

- GSM algorithms computation NET
- IMSI request NET
- Access control information request NET
- HPLMN search period request NET
- Location Information NET
- GPRS Location Information NET
- Cipher key NET
- GPRS Cipher key NET
- BCCH information NET
- Forbidden PLMN information NET
- LSA information NET

Subscription related procedures:

- Dialling Numbers (ADN, FDN, MSISDN, LND, SDN, BDN) MMI/ME
- Short messages (SMS) MMI
- Advice of Charge (AoC) MMI
- Capability Configuration Parameters (CCP) MMI
- PLMN Selector MMI
- HPLMN Selector with Access Technology MMI
- User controlled PLMN Selector with Access Technology MMI
- Operator controlled PLMN Selector with Access Technology MMI
- ~~RPLMN last used Access Technology MMI~~
- Investigation Scan request NET
- CPBCCH information NET
- Cell Broadcast Message Identifier (CBMI) MMI

- Group Identifier Level 1 (GID1) MMI/ME
- Group Identifier Level 2 (GID2) MMI/ME
- Service Provider Name (SPN) ME
- Voice Group Call Service (VGCS) MMI/ME
- Voice Broadcast Service (VBS) MMI/ME
- Enhanced Multi Level Pre-emption and Priority (eMLPP) MMI/ME
- Depersonalisation Control Keys ME
- Short message status reports (SMSR) MMI
- Network's indication of alerting ME

SIM Application Toolkit related procedures:

- Data Download via SMS-CB (CBMID) NET
- Data Download via SMS-PP NET
- Menu selection MMI
- Call Control MMI/ME/NET
- Proactive SIM MMI/ME/NET
- Mobile Originated Short Message control by SIM MMI/ME/NET
- Image Request MMI/ME

MExE related procedures:

- Reading of MExE_ST ME
- Reading of root public keys on the SIM (ORPK, ARPK,TPRPK) ME/NET

The procedures listed in subclause 11.2 are basically required for execution of the procedures in subclauses 11.3, 11.4 and 11.5. The procedures listed in subclauses 11.3 and 11.4 are mandatory (see TS 02.17 [6]). The procedures listed in subclause 11.5 are only executable if the associated services, which are optional, are provided in the SIM. However, if the procedures are implemented, it shall be in accordance with subclause 11.5.

If a procedure is related to a specific service indicated in the SIM Service Table, it shall only be executed if the corresponding bits denote this service as "allocated and activated" (see subclause 10.3.7). In all other cases this procedure shall not start.

_____

NEXT REVISED SECTION

_____

11.2.1 SIM initialization

After SIM activation (see subclause 4.3.2), the ME selects the Dedicated File DF_{GSM} and optionally attempts to select EF_{ECC} If EF_{ECC} is available, the ME requests the emergency call codes.

The ME requests the Extended Language Preference. The ME only requests the Language Preference (EF_{LP}) if at least one of the following conditions holds:

- EF_{ELP} is not available;
- EF_{ELP} does not contain an entry corresponding to a language specified in ISO 639[30];

- the ME does not support any of the languages in EF_{ELP}.

If both EFs are not available or none of the languages in the EFs is supported then the ME selects a default language. It then runs the CHV1 verification procedure.

If the CHV1 verification procedure is performed successfully, the ME then runs the SIM Phase request procedure.

For a SIM requiring PROFILE DOWNLOAD, then the ME shall perform the PROFILE DOWNLOAD procedure in accordance with TS 11.14 [27]. When BDN is enabled on a SIM, the PROFILE DOWNLOAD procedure is used to indicate to the SIM whether the ME supports the "Call Control by SIM" facility. If so, then the SIM is able to allow the REHABILITATE command to rehabilitate EF_{IMSI} and EF_{LOCI}.

If the ME detects a SIM of Phase 1, it shall omit the following procedures relating to FDN and continue with the Administrative Information request. The ME may omit procedures not defined in Phase 1 such as HPLMN Search Period request.

For a SIM of Phase 2 or greater, GSM operation shall only start if one of the two following conditions is fulfilled:

- if EF_{IMSI} and EF_{LOCI} are not invalidated, the GSM operation shall start immediately;

- if EF_{IMSI} and EF_{LOCI} are invalidated, the ME rehabilitates these two EFs.

  MEs without FDN capability but with Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} if FDN is enabled in the SIM and therefore have no access to these EFs. GSM operation will therefore be prohibited;

  MEs without FDN capability and without Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} and therefore have no access to these EFs. GSM operation will therefore be prohibited.

  It is these mechanisms which are used for control of services n°3 and n°31 by the use of SIMs for these services which always invalidate these two EFs at least before the next command following selection of either EF.

NOTE: When FDN and BDN are both enabled, and if the ME supports FDN but does not support the Call control by SIM facility, the rehabilitation of EF_{IMSI} and EF_{LOCI} will not be successful because of a restriction mechanism of the REHABILITATE command linked to the BDN feature.

When EF_{IMSI} and EF_{LOCI} are successfully rehabilitated, if the FDN capability procedure indicates that:

i) FDN is allocated and activated in the SIM; and FDN is set "enabled", i.e. ADN "invalidated" or not activated; and the ME supports FDN; or

ii) FDN is allocated and activated in the SIM; and FDN is set "disabled", i.e. ADN "not invalidated"; or

iii) FDN is not allocated or not activated;

then GSM operation shall start.

In all other cases GSM operation shall not start.

Afterwards, the ME runs the following procedures, subject to the service being supported both by the ME and the SIM:

- Administrative Information request;

- SIM Service Table request;

- IMSI request;

- Access Control request;

- HPLMN Search Period request;

- Investigation scan request;

- PLMN selector request;

- HPLMN Selector with Access Technology request;

- User controlled PLMN Selector with Access Technology request;
- Operator controlled PLMN Selector with Access Technology request;
- ~~RPLMN last used Access Technology request;~~
- Location Information request;
- GPRS Location Information request;
- Cipher Key request;
- GPRS Cipher Key request;
- BCCH information request;
- CPBCCH information request;
- Forbidden PLMN request;
- LSA information request;
- CBMID request;
- Depersonalisation Control Keys request;
- Network's indication of alerting request.

If the SIM service table indicates that the proactive SIM service is active, then from this point onwards, the ME, if it supports the proactive SIM service, shall send STATUS commands at least every 30s during idle mode as well as during calls, in order to enable the proactive SIM to respond with a command. The SIM may send proactive commands (see TS 11.14 [27]), including a command to change the interval between STATUS commands from the ME, when in idle mode. In-call requirements for STATUS for SIM Presence Detection are unchanged by this command.

After the SIM initialization has been completed successfully, the MS is ready for a GSM session.

11.2.2 GSM session termination

NOTE 1: This procedure is not to be confused with the deactivation procedure in subclause 4.3.2.

The GSM session is terminated by the ME as follows.

The ME runs all the procedures which are necessary to transfer the following subscriber related information to the SIM, subject to the service being supported both by the ME and the SIM:

- Location Information update;
- GPRS Location Information update;
- Cipher Key update;
- GPRS Cipher Key update;
- BCCH information update;
- CPBCCH information update;
- ~~RPLMN last used Access Technology update;~~
- Advice of Charge increase;
- Forbidden PLMN update.

As soon as the SIM indicates that these procedures are completed, the ME/SIM link may be deactivated.

Finally, the ME deletes all these subscriber related information elements from its memory.

NOTE 2: If the ME has already updated any of the subscriber related information during the GSM Session, and the value has not changed until GSM session termination, the ME may omit the respective update procedure.

_____

NEXT REVISED SECTION

_____

11.5.22 Void

~~11.5.22RPLMN last used Access Technology~~

~~Requirement: Service n°50 "allocated and activated".~~

~~Request: The ME performs the reading procedure with $EF_{RPLMNAcT}$.~~

~~Update: The ME performs the updating procedure with $EF_{RPLMNAcT}$.~~

_____

NEXT REVISED SECTION

_____

Annex D (informative): Suggested contents of the EFs at pre-personalization

If EFs have an unassigned value, it may not be clear from the main text what this value should be. This annex suggests values in these cases.

File Identification	Description	Value
'2FE2'	ICC identification	operator dependant (see 10.1.1)
'2F05'	Extended Language preference	'FF…FF'
'6F05'	Language preference	'FF'
'6F07'	IMSI	operator dependant (see 10.3.2)
'6F20'	Ciphering key Kc	'FF...FF07'
'6F30'	PLMN selector	'FF...FF'
'6F31'	HPLMN search period	'FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	SIM service table	operator dependant (see 10.3.7)
'6F39'	Accumulated call meter	'000000'
'6F3E'	Group identifier level 1	operator dependant
'6F3F'	Group identifier level 2	operator dependant
'6F41'	PUCT	'FFFFFF0000'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	'FF...FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F74'	BCCH information	'FF...FF'
'6F78'	Access control class	operator dependant (see 10.3.15)
'6F7B'	Forbidden PLMNs	'FF...FF'
'6F7E	Location information	'FFFFFFFF xxxxxx 0000 FF 01' (see note 2)
'6FAD'	Administrative data	operator dependant (see 10.3.18)
'6FAE'	Phase identification	see 10.3.16
'6F3A'	Abbreviated dialling numbers	'FF...FF'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3D'	Capability configuration parameters	'FF...FF'
'6F40'	MSISDN storage	'FF...FF'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F44'	Last number dialled	'FF...FF'
'6F47'	Short message status reports	'00FF…FF'
'6F4A'	Extension 1	'FF...FF'
'6F4B'	Extension 2	'FF...FF'
'6F4C'	Extension 3	'FF...FF'
'6F4D'	Barred dialling numbers	'FF...FF'
'6F4E'	Extension 4	'FF...FF'
'6F4F'	Extended capability configuration parameters	'FF...FF'
'6F51'	Network's indication of alerting	'FF...FF'
'6F52'	GPRS Ciphering key KcGPRS	'FF...FF07'
'6F53'	GPRS Location Information	'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F54'	SetUpMenu Elements	operator dependant (see 10.3.34)
'6F58'	Comparison method information	'FF…FF'
'6F60'	User controlled PLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F61'	Operator controlled PLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F62'	HPLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F63'	CPBCCH information	'FF..FF'
'6F64'	Investigation Scan	'00'
'6F65'	~~RPLMN last used Access Technology~~Reserved and shall not be used	~~'0000'~~N/A
'4F20'	Image data	'00FF...FF'
'4F30'	SoLSA Access Indicator)	'00FF...FF'
'4F31'	SoLSA LSA List	'FF...FF'

NOTE 1: The value '000000' means that ACMmax is not valid, i.e. there is no restriction on the ACM. When assigning a value to ACMmax, care should be taken not to use values too close to the maximum possible value 'FFFFFF', because the INCREASE command does not update EF_{ACM} if the units to be added would exceed 'FFFFFF'. This could affect the call termination procedure of the Advice of Charge function.

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 04.08 [15].

_____

NEXT REVISED SECTION

_____

Annex I (informative): EF changes via Data Download or SIM Toolkit applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by SIM Toolkit Application (e.g. by using the SIM API), is advisable. Updating of certain EFs, "over the air" such as EF_{ACC} could result in unpredictable behaviour of the MS; these are marked "Caution" in the table below. Certain EFs are marked "No"; under no circumstances should "over the air" changes of these EFs be considered.

File identification	Description	Change advised
'2F05'	Extended Language preference	Yes
'2FE2'	ICC identification	No
'4F20'	Image data	Yes
'4Fxx'	Image Instance data Files	Yes
'6F05'	Language preference	Yes
'6F07'	IMSI	Caution (note)
'6F20'	Ciphering key Kc	No
'6F2C'	De-personalization Control Keys	Caution
'6F30'	PLMN selector	Caution
'6F31'	HPLMN search period	Caution
'6F32'	Co-operative network	Caution
'6F37'	ACM maximum value	Yes
'6F38'	SIM service table	Caution
'6F39'	Accumulated call meter	Yes
'6F3A'	Abbreviated dialling numbers	Yes
'6F3B'	Fixed dialling numbers	Yes
'6F3C'	Short messages	Yes
'6F3D'	Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes
'6F40'	MSISDN storage	Yes
'6F41'	PUCT	Yes
'6F42'	SMS parameters	Yes
'6F43'	SMS status	Yes
'6F44'	Last number dialled	Yes
'6F45'	CBMI	Caution
'6F46'	Service provider name	Yes
'6F47'	Short message status reports	Yes
'6F48'	CBMID	Yes
'6F49'	Service Dialling Numbers	Yes
'6F4A'	Extension 1	Yes
'6F4B'	Extension 2	Yes
'6F4C'	Extension 3	Yes
'6F4D'	Barred dialling numbers	Yes
'6F4E'	Extension 4	Yes
'6F50'	CBMIR	Yes
'6F51'	Network's indication of alerting	Caution
'6F52'	GPRS Ciphering key KcGPRS	No
'6F53'	GPRS Location Information	Caution
'6F58'	Comparison method information	
'6F60'	User controlled PLMN Selector with Access Technology	see 3GPP TS 22.011
'6F61'	Operator controlled PLMN Selector with Access Technology	Caution
'6F62'	HPLMN Selector with Access Technology	Caution
'6F63'	CPBCCH information	No
'6F64'	Investigation scan	Caution
'6F65'	~~RPLMN last used Access Technology~~Reserved and shall not be used	~~No~~N/A
'6F74'	BCCH information	No
'6F78'	Access control class	Caution
'6F7B'	Forbidden PLMNs	Caution
'6F7E'	Location information	No (note)
'6FAD'	Administrative data	Caution
'6FAE'	Phase identification	Caution

Continued.....

File identification	Description	Change advised
'6FB1'	Voice Group Call Service	Yes
'6FB2'	Voice Group Call Service Status	Yes
'6FB3'	Voice Broadcast Service	Yes
'6FB4'	Voice Broadcast Service Status	Yes
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
NOTE: If EF_{IMSI} is changed, the SIM should issue REFRESH as defined in TS 11.14 [27] and update EF_{LOCI} accordingly.		

3GPP TSG-T3 Meeting #26
Lisbon, Portugal, 11 February 2003

Tdoc T3-030145 ⌘

CR-Form-v7

CHANGE REQUEST

⌘ **TS 51.011** **CR** **017** ⌘ **rev** **-** ⌘ Current version: **4.6.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Correction of reference to GSM 11.14 (R4 is TS 51.014)
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	11/02/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Alignment between TS 51.011 and TS 51.014
Summary of change:	⌘	Replace references to GSM 11.14 by references to TS 51.014
Consequences if not approved:	⌘	Discrepancies between T3 specifications

Clauses affected:	⌘	2, 3, 9.1, 10.3.19, 10.3.34, 11.2.1, 11.2.6, 11.2.6.8 to 11.2.6.16, Annex E, Annex I

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

Other comments: ⌘

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] Void.

[2] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[3] 3GPP TS 02.07: "Mobile Stations (MS) features".

[4] 3GPP TS 02.09: " Security aspects".

[5] 3GPP TS 22.011: " Service accessibility".

[6] 3GPP TS 42.017: "Subscriber Identity Modules (SIM); Functional characteristics".

[7] 3GPP TS 22.024: " Description of Charge Advice Information (CAI)".

[8] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[9] 3GPP TS 22.086: "Advice of Charge (AoC) Supplementary Services - Stage 1".

[10] 3GPP TS 23.003: "Numbering, addressing and identification".

[11] 3GPP TS 43.020: "Security related network functions".

[12] 3GPP TS 23.038: "Alphabets and language-specific information".

[13] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[14] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[15] 3GPP TS 04.08: "Mobile radio interface layer 3 specification".

[16] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[17] GSM 09.91: "Digital cellular telecommunications system (Phase 2); Interworking aspects of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface between Phase 1 and Phase 2".

[18] ITU-T Recommendation E.118: "The international telecommunication charge card".

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

[20] ITU-T Recommendation T.50: "International Reference Alphabet (IRA) (Formerly International Alphabet No. 5 or IA5) - Information technology - 7-bit coded character set for information interchange".

[21] ISO/IEC 7810 (1995): "Identification cards - Physical characteristics".

[22] ISO/IEC 7811-1 (1995): "Identification cards - Recording technique - Part 1: Embossing".

[23] ISO/IEC 7811-3 (1995): "Identification cards - Recording technique - Part 3: Location of embossed characters on ID-1 cards".

[24] ISO/IEC 7816-1 (1998): "Identification cards - Integrated circuit(s) cards with contacts - Part 1: Physical characteristics".

[25] ISO/IEC 7816-2 (1988): "Identification cards - Integrated circuit(s) cards with contacts - Part 2: Dimensions and locations of the contacts".

[26] ISO/IEC 7816-3 (1997): "Identification cards - Integrated circuit(s) cards with contacts - Part 3: Electronic signals and transmission protocols".

[27] 3GPP TS ~~1~~51.014: "Specification of the SIM Application Toolkit for the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[28] GSM 11.12: "Digital cellular telecommunications system (Phase 2); Specification of the 3 Volt Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[29] 3GPP TS 22.022: "Personalization of Mobile Equipment (ME); Mobile functionality specification".

[30] ISO 639 (1988): "Code for the representation of names of languages".

[31] ISO/IEC 10646-1 (1993): "Information technology - Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane".

[32] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[33] 3GPP TS 23.073: "Support of Localised Service Area (SoLSA); Stage 2".

[34] GSM 11.19: "Specification of the Cordless Telephony System Subscriber Identity Module for both Fixed Part and Mobile Station".

[35] ISO/IEC 7816-4 (1995): "Identification cards - Integrated circuit(s) cards with contacts - Part 4: Interindustry commands for interchange".

[36] TIA/EIA-136-005: "Introduction, Identification, and Semi-Permanent Memory, November 1998".

[37] TIA/EIA-136-123-A: "Digital Control Channel Layer 3, November 1998".

[38] TIA/EIA-136-140-A: "Analogue Control Channel, November 1998".

[39] TIA/EIA-136-510-A: "Authentication, Encryption of Signaling Information/User Data and Privacy, November 1998".

[40] ANSI TIA/EIA-41: "Cellular Radio Telecommunications Intersystem Operations".

[41] EIA/TIA-553: "Mobile Station - Land Station Compatibility Specification".

[42] 3GPP TS 22.067: "enhanced Multi Level Precedence and Pre-emption service (eMLPP) - Stage 1".

[43] TR45 AHAG "Common Cryptographic Algorithms, Revision C," October 27, 1998.

[44] ETS 300 812: "Terrestrial Trunked Radio (TETRA); Security aspects; Subscriber Identity Module to Mobile Equipment (SIM - ME) interface".

[45] 3GPP TS 03.22: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[46] 3GPP TS 05.05: "Radio transmission and reception".

[47] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[48] 3GPP TS 04.18: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".

[49] 3GPP TS 04.60: "General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol".

[50] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".

[51] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode".

[52] 3GPP TS 31.102: "Characteristics of the USIM Application".

[53] 3GPP TS 22.101: "Service aspects; Service principles".

[54] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP) (Phase 2) - Stage 2".

[55] 3GPP TS 31.101: "UICC-Terminal interface; Physical and logical characteristics"

[56] ISO/IEC 8825 (1990): "Information technology; Open Systems Interconnection; Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)"

[57] ETSI TS 102 221: "UICC-Terminal interface; Physical and logical characteristics"

[58] 3GPP TS 23.140: “Multimedia Messaging Service (MMS); Functional description; stage 2”.

3 Definitions, abbreviations and symbols

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

access conditions: set of security attributes associated with a file

application: application consists of a set of security mechanisms, files, data and protocols (excluding transmission protocols)

application protocol: set of procedures required by the application

card session: link between the card and the external world starting with the ATR and ending with a subsequent reset or a deactivation of the card

current directory: latest MF or DF selected

current EF: latest EF selected

data field: obsolete term for Elementary File

Dedicated File (DF): file containing access conditions and, optionally, Elementary Files (EFs) or other Dedicated Files (DFs)

directory: general term for MF and DF

Elementary File (EF): file containing access conditions and data and no other files

file: directory or an organized set of bytes or records in the SIM

file identifier: 2 bytes which address a file in the SIM

GSM, DCS 1800 or PCS 1900 application: set of security mechanisms, files, data and protocols required by GSM, DCS 1800 or PCS 1900

GSM session: that part of the card session dedicated to the GSM operation

IC card SIM: obsolete term for ID-1 SIM

ID-1 SIM: SIM having the format of an ID-1 card (see ISO 7816-1 [24])

Master File (MF): unique mandatory file containing access conditions and optionally DFs and/or EFs

normal GSM operation: relating to general, CHV related, GSM security related and subscription related procedures

padding: one or more bits appended to a message in order to cause the message to contain the required number of bits or bytes

plug-in SIM: Second format of SIM (specified in clause 4)

proactive SIM: SIM which is capable of issuing commands to the ME. Part of SIM Application Toolkit (see clause 11)

record: string of bytes within an EF handled as a single entity (see clause 6)

record number: number which identifies a record within an EF

record pointer: pointer which addresses one record in an EF

root directory: obsolete term for Master File

SIM application toolkit procedures: defined in TS ~~1~~51.014 [27]

9.1 Mapping principles

The mapping of protocol T=0 with respect to the TPDU level is according to TS 31.101 [55] with the following exceptions:

- The use of procedure byte '6C' for Case 2 commands as defined in TS 31.101 [55] shall be replaced by the usage of '9F' as described in case 2b below. According to the present document the status byte '9F' triggers a GET RESPONSE command whereas the procedure byte '6C' in TS 31.101 [55] triggers re-issuing of the same command.

- The use of procedure byte '61' for Case 4 commands as defined in TS 31.101 [55] shall be replaced by the usage of '9F' as described in case 4 below. According to the present document the status byte '9F' triggers one GET RESPONSE command, which is optional for the ME, whereas the procedure byte '61' in TS 31.101 [55] triggers one or more GET RESPONSE commands depending upon the procedure bytes following the GET RESPONSE command.

For some commands described in the present document it is necessary for T=0 to use a supplementary transport service command (GET RESPONSE) to obtain the output data. For example, the SELECT function needs the following two commands:

- the first command (SELECT) has both parameters and data serving as input for the function;

- the second command (GET RESPONSE) has a parameter indicating the length of the data to be returned.

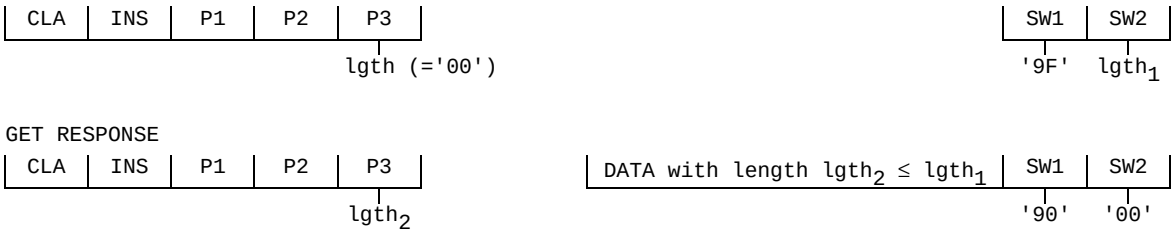
If the length of the response data is not known beforehand, then its correct length may be obtained by applying the first command and interpreting the status words. SW1 shall be '9F' and SW2 shall give the total length of the data. Other status words may be present in case of an error. The various cases are:

Case 1: No input / No output

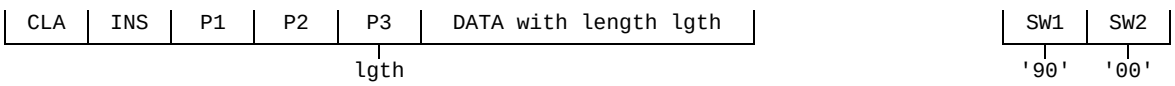
Case 2a: No input / Output of known length

NOTE: lgth='00' causes a data transfer of 256 bytes.

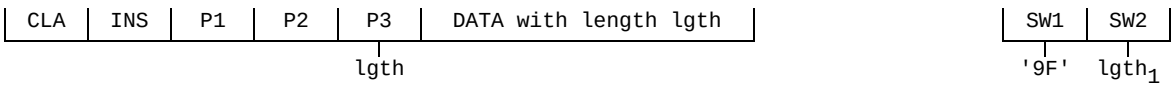
Case 2b: No Input / Output of unknown length



Case 3: Input / No output



Case 4: Input / Output of known or unknown length



For case 4, in case of an ENVELOPE for SIM data download, SW1/SW2 may also indicate that there is response data with the value '9EXX', and the ME shall then send a GET RESPONSE command to get this response data.

The following diagrams show how the five cases of transmission protocol identified in the above diagrams can all be used to send pro-active SIM commands. For further information on the diagrams below see TS ~~1~~51.014 [27].

Case 1: No input / "OK" response with no output, plus additional command from SIM

[Possible "normal GSM operation" command/response pairs]

NOTE: $lgth_1$='00' causes a data transfer of 256 bytes.

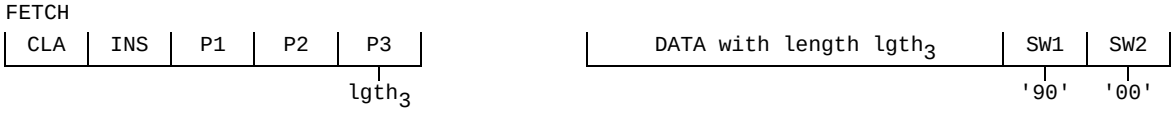
Case 2a: No input / "OK" response with data of known length, plus additional command from SIM

[Possible "normal GSM operation" command/response pairs]

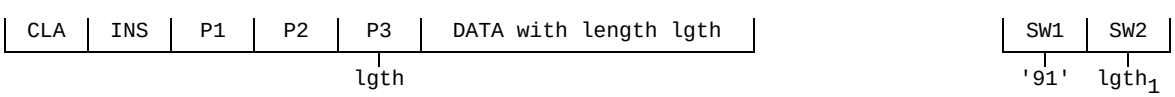
NOTE: lgth='00' causes a data transfer of 256 bytes. The same applies to $lgth_1$.

Case 2b: No Input / "OK" response with data of unknown length, plus additional command from SIM

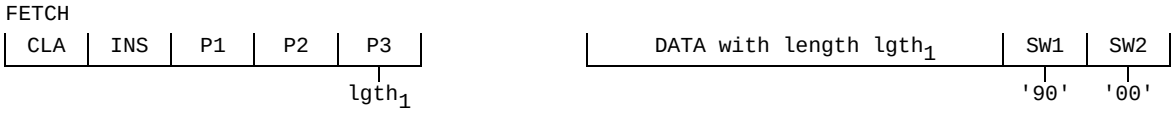
[Possible "normal GSM operation" command/response pairs]



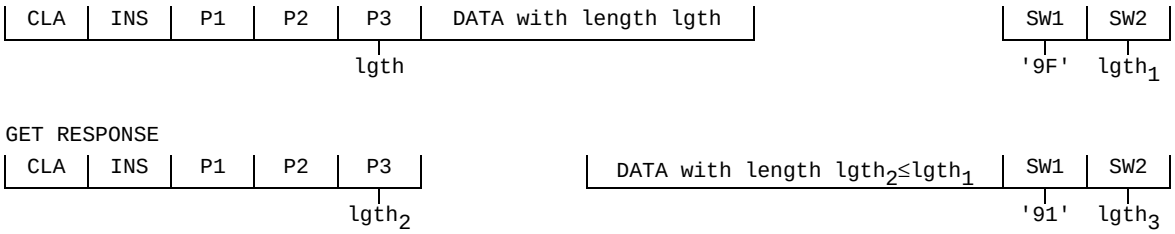
Case 3: Input / "OK" response with no output data, plus additional command from SIM



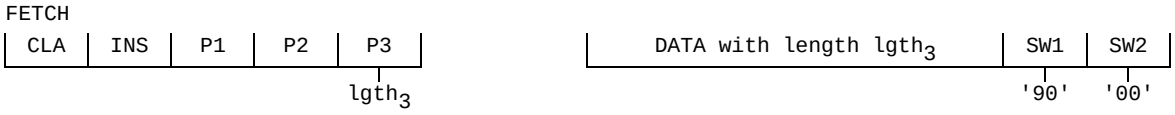
[Possible "normal GSM operation" command/response pairs]



Case 4: Input / "OK" response with data of known or unknown length, plus additional command from SIM



[Possible "normal GSM operation" command/response pairs]



10.3.19 EF_{Phase} (Phase identification)

This EF contains information concerning the phase of the SIM.

Identifier: '6FAE'	Structure: transparent	Mandatory
File size: 1 byte	Update activity: low	
Access Conditions: READ ALW UPDATE ADM INVALIDATE ADM REHABILITATE ADM		

Bytes	Description	M/O	Length
1	SIM Phase	M	1 byte

- SIM Phase

  Coding:

  '00': phase 1

  '02': phase 2

  '03': phase 2 and PROFILE DOWNLOAD required (see TS ~~1~~51.014 [27]).

  All other codings are reserved for specification by ETSI TC SMG. Codings '04' to '0F' indicate that the SIM supports, as a minimum, the mandatory requirements defined in this specification.

This phase identification does not preclude a SIM to support some features of a phase later than the one indicated in EF_{Phase}. For example : if EF_{Phase} is coded '00', it may be assumed by the ME that some Phase 2 or Phase 2+ features are supported by this SIM; if EF_{Phase} is coded '02' or '03', it may be assumed by the ME that some Phase 2+ features are supported by this SIM.

However, the services n°3 (FDN) and/or n°5 (AoC) shall only be allocated and activated in SIMs of phase 2 or later with EF_{Phase} being coded '02' or greater. Similarly, service n°31 (BDN) shall only be allocated and activated in SIMs with EF_{Phase} being coded '03' or greater.

If EF_{Phase} is coded '03' or greater, an ME supporting SIM Application Toolkit shall perform the PROFILE DOWNLOAD procedure, as defined in TS ~~1~~51.014 [27].

10.3.34 EF_{SUME} (SetUpMenu Elements)

This EF contains Simple TLVs related to the menu title to be used by a SIM card supporting the SIM API when issuing a SET UP MENU proactive command.

Identifier: '6F54'	Structure: transparent	Optional
File size: X+Y bytes	Update activity: low	

Access Conditions:

READ	ADM
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to X	Title Alpha Identifier	M	X bytes
1+X to X+Y	Title Icon Identifier	O	Y bytes

- Title Alpha Identifier

  Contents:

  this field contains the Alpha Identifier Simple TLV defining the menu title text.

  Coding:

  according to TS ~~1~~51.014 [27].

- Title Icon Identifier

  Contents:

  this field contains the Icon Identifier Simple TLV defining the menu title icon.

  Coding:

  according to GSM ~~1~~51.014 [27].
  If not present the field shall be set to 'FF'.

  Unused bytes of this file shall be set to 'FF'.

11.2.1 SIM initialization

After SIM activation (see clause 4.3.2), the ME selects the Dedicated File DF_{GSM} and optionally attempts to select EF_{ECC} If EF_{ECC} is available, the ME requests the emergency call codes.

The ME requests the Extended Language Preference. The ME only requests the Language Preference (EF_{LP}) if at least one of the following conditions holds:

- EF_{PL} is not available;
- EF_{PL} does not contain an entry corresponding to a language specified in ISO 639[30];
- the ME does not support any of the languages in EF_{PL}.

If both EFs are not available or none of the languages in the EFs is supported then the ME selects a default language. It then runs the CHV1 verification procedure.

If the CHV1 verification procedure is performed successfully, the ME then runs the SIM Phase request procedure.

For a SIM requiring PROFILE DOWNLOAD, then the ME shall perform the PROFILE DOWNLOAD procedure in accordance with TS ~~1~~51.014 [27]. When BDN is enabled on a SIM, the PROFILE DOWNLOAD procedure is used to indicate to the SIM whether the ME supports the "Call Control by SIM" facility. If so, then the SIM is able to allow the REHABILITATE command to rehabilitate EF_{IMSI} and EF_{LOCI}.

If the ME detects a SIM of Phase 1, it shall omit the following procedures relating to FDN and continue with the Administrative Information request. The ME may omit procedures not defined in Phase 1 such as HPLMN Search Period request.

For a SIM of Phase 2 or greater, GSM operation shall only start if one of the two following conditions is fulfilled:

- if EF_{IMSI} and EF_{LOCI} are not invalidated, the GSM operation shall start immediately;
- if EF_{IMSI} and EF_{LOCI} are invalidated, the ME rehabilitates these two EFs.

  MEs without FDN capability but with Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} if FDN is enabled in the SIM and therefore have no access to these EFs. GSM operation will therefore be prohibited;

  MEs without FDN capability and without Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} and therefore have no access to these EFs. GSM operation will therefore be prohibited.

  It is these mechanisms which are used for control of services n°3 and n°31 by the use of SIMs for these services which always invalidate these two EFs at least before the next command following selection of either EF.

NOTE: When FDN and BDN are both enabled, and if the ME supports FDN but does not support the Call control by SIM facility, the rehabilitation of EF_{IMSI} and EF_{LOCI} will not be successful because of a restriction mechanism of the REHABILITATE command linked to the BDN feature.

When EF_{IMSI} and EF_{LOCI} are successfully rehabilitated, if the FDN capability procedure indicates that:

i) FDN is allocated and activated in the SIM; and FDN is set "enabled", i.e. ADN "invalidated" or not activated; and the ME supports FDN; or

ii) FDN is allocated and activated in the SIM; and FDN is set "disabled", i.e. ADN "not invalidated"; or

iii) FDN is not allocated or not activated;

then GSM operation shall start.

In all other cases GSM operation shall not start.

Afterwards, the ME runs the following procedures, subject to the service being supported both by the ME and the SIM:

- Administrative Information request;
- SIM Service Table request;

- IMSI request;
- Access Control request;
- HPLMN Search Period request;
- Investigation scan request;
- PLMN selector request;
- HPLMN Selector with Access Technology request;
- User controlled PLMN Selector with Access Technology request;
- Operator controlled PLMN Selector with Access Technology request;
- RPLMN last used Access Technology request;
- Location Information request;
- GPRS Location Information request;
- Cipher Key request;
- GPRS Cipher Key request;
- BCCH information request;
- CPBCCH information request;
- Forbidden PLMN request;
- LSA information request;
- CBMID request;
- Depersonalisation Control Keys request;
- Network's indication of alerting request.

If the SIM service table indicates that the proactive SIM service is active, then from this point onwards, the ME, if it supports the proactive SIM service, shall send STATUS commands at least every 30s during idle mode as well as during calls, in order to enable the proactive SIM to respond with a command. The SIM may send proactive commands (see TS 51~~1~~.014 [27]), including a command to change the interval between STATUS commands from the ME, when in idle mode. In-call requirements for STATUS for SIM Presence Detection are unchanged by this command.

After the SIM initialization has been completed successfully, the MS is ready for a GSM session.

11.2.8 SIM Presence Detection and Proactive Polling

As an additional mechanism, to ensure that the SIM has not been removed during a card session, the ME sends, at frequent intervals, a STATUS command during each call. A STATUS command shall be issued within all 30 second periods of inactivity on the SIM-ME interface during a call. Inactivity in this case is defined as starting at the end of the last communication or the last issued STATUS command. If no response data is received to this STATUS command, then the call shall be terminated as soon as possible but at least within 5 seconds after the STATUS command has been sent. If the DF indicated in response to a STATUS command is not the same as that which was indicated in the previous response, or accessed by the previous command, then the call shall be terminated as soon as possible but at least within 5 seconds after the response data has been received. This procedure shall be used in addition to a mechanical or other device used to detect the removal of a SIM.

If the ME supports the proactive SIM service, and the SIM has this service activated in its Service Table, then during idle mode the ME shall send STATUS commands to the SIM at intervals no longer than the interval negotiated with the SIM (see TS 51~~1~~.014 [27]).

11.6 SIM Application Toolkit related procedures

SIM Application Toolkit is an optional feature. The higher level procedures, and contents and coding of the commands, are given in TS ~~1~~51.014 [27]. Procedures relating to the transmission of commands and responses across the SIM/ME interface are given in this clause. A SIM or ME supporting SIM Application Toolkit shall conform to the requirements given in this clause.

11.6.8 Use of NULL procedure byte

The NULL procedure byte provides a mechanism for the SIM to obtain more time before supplying the response part of a command-response pair, during which time the ME is unable to send further commands to the SIM.

If a SIM Application Toolkit activity in the SIM runs for too long, this may prevent the ME from sending "normal GSM" commands which are time-critical, e.g. RUN GSM ALGORITHM. A MORE TIME command is defined in TS ~~1~~51.014 [27], which ensures that the SIM Application Toolkit task in the SIM gets more processing time, while at the same time freeing the SIM/ME interface. This should be used in preference to NULL procedure bytes ('60').

11.6.9 Using the TERMINAL PROFILE, ENVELOPE, and TERMINAL RESPONSE commands

These commands are part of the set used by SIM Application Toolkit. The use of the these commands, the occasions where they are required, and the command and response parameters associated with the commands, are specified in TS ~~1~~51.014 [27]. The ME completes the command parameters/data of the relevant command and sends the command to the SIM. The transmitted data is processed by the SIM in a specific way depending on the tag value in the command parameters.

A SIM or ME not supporting SIM Application Toolkit does not need to support these commands.

11.6.10 Using the FETCH command

This command is used by SIM Application Toolkit. The use of the this command, the occasions where it is required, and the command and response parameters associated with the command, are specified in TS ~~1~~51.014 [27]. It is similar in function to GET RESPONSE, in that it requests response parameters from the SIM, following a '91 XX' status response. The transmitted response data from the SIM is processed by the ME in a specific way depending on the tag value in the response parameters.

A SIM or ME not supporting SIM Application Toolkit does not need to support this command.

11.6.11 Data Download via SMS-CB

Requirement: Service n°25 "allocated and activated".

The ME shall perform the reading procedure with EF_{CBMID}. On receiving a cell broadcast message with an identifier which matches an identifier in EF_{CBMID}, the ME shall pass the CB message to the SIM using the ENVELOPE command. If a match is not found and service no. 14 is "allocated and activated", then the message identifier is checked against those in EF_{CBMI}.

11.6.12 Data Download via SMS-PP

Requirement: Service n°26 "allocated and activated".

The procedures and commands for Data Download via SMS-PP are defined in TS ~~1~~51.014 [27].

11.6.13 Menu selection

Requirement: Service n°27 "allocated and activated".

The procedures and commands for Menu Selection are defined in TS 511~~1~~.014 [27].

11.6.14 Call Control

Requirement: Service n°28 "allocated and activated".

The procedures and commands for Call Control are defined in TS ~~1~~51.014 [27]. It is mandatory for the ME to perform the procedures if it has indicated that it supports Call Control in the TERMINAL PROFILE command. When BDN is enabled, the Call control facility of the ME is used by the SIM to support the BDN service.

11.6.15 Proactive SIM

Requirement: Service n°29 "allocated and activated".

The procedures and commands for Proactive SIM, at the application level, are defined in TS 51~~1~~.014 [27].

11.6.16 Mobile Originated Short Message control by SIM

Requirement: Service n°37 "allocated and activated".

The procedures and commands for Mobile Originated Short Message control by SIM are defined in TS ~~1~~51.014 [27]. It is mandatory for the ME to perform the procedures if it has indicated that it supports Mobile Originated Short Message control by SIM in the TERMINAL PROFILE command.

Annex E (informative): SIM application Toolkit protocol diagrams

The diagrams in this annex are intended to illustrate the data protocols of the SIM toolkit application in various situations. The SIM application is shown as initiated by SMS Data Download messages. Other possibilities exist (as defined in TS ~~1~~51.014) such as data entry from a menu selection.

Annex I (informative): EF changes via Data Download or SIM Toolkit applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by SIM Toolkit Application (e.g. by using the SIM API), is advisable. Updating of certain EFs, "over the air" such as EF_{ACC} could result in unpredictable behaviour of the MS; these are marked "Caution" in the table below. Certain EFs are marked "No"; under no circumstances should "over the air" changes of these EFs be considered.

File identification	Description	Change advised
'2F05'	Extended Language preference	Yes
'2FE2'	ICC identification	No
'4F20'	Image data	Yes
'4Fxx'	Image Instance data Files	Yes
'6F05'	Language preference	Yes
'6F07'	IMSI	Caution (note)
'6F20'	Ciphering key Kc	No
'6F2C'	De-personalization Control Keys	Caution
'6F30'	PLMN selector	Caution
'6F31'	HPLMN search period	Caution
'6F32'	Co-operative network	Caution
'6F37'	ACM maximum value	Yes
'6F38'	SIM service table	Caution
'6F39'	Accumulated call meter	Yes
'6F3A'	Abbreviated dialling numbers	Yes
'6F3B'	Fixed dialling numbers	Yes
'6F3C'	Short messages	Yes
'6F3D'	Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes
'6F40'	MSISDN storage	Yes
'6F41'	PUCT	Yes
'6F42'	SMS parameters	Yes
'6F43'	SMS status	Yes
'6F44'	Last number dialled	Yes
'6F45'	CBMI	Caution
'6F46'	Service provider name	Yes
'6F47'	Short message status reports	Yes
'6F48'	CBMID	Yes
'6F49'	Service Dialling Numbers	Yes
'6F4A'	Extension 1	Yes
'6F4B'	Extension 2	Yes
'6F4C'	Extension 3	Yes
'6F4D'	Barred dialling numbers	Yes
'6F4E'	Extension 4	Yes
‘6F4F’	Extended Capability configuration parameters	Yes
'6F50'	CBMIR	Yes
'6F51'	Network's indication of alerting	Caution
'6F52'	GPRS Ciphering key KcGPRS	No
'6F53'	GPRS Location Information	Caution
'6F58'	Comparison method information	
'6F60'	User controlled PLMN Selector with Access Technology	see 3GPP TS 22.011
'6F61'	Operator controlled PLMN Selector with Access Technology	Caution
'6F62'	HPLMN Selector with Access Technology	Caution
'6F63'	CPBCCH information	No
'6F64'	Investigation scan	Caution
'6F65'	RPLMN last used Access Technology	No
'6F74'	BCCH information	No
'6F78'	Access control class	Caution
'6F7B'	Forbidden PLMNs	Caution
'6F7E'	Location information	No (note)
	Continued.....	

File identification	Description	Change advised
'6FAD'	Administrative data	Caution
'6FAE'	Phase identification	Caution
'6FB1'	Voice Group Call Service	Yes
'6FB2'	Voice Group Call Service Status	Yes
'6FB3'	Voice Broadcast Service	Yes
'6FB4'	Voice Broadcast Service Status	Yes
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
'6FC5'	PLMN Network Name	Yes
'6FC6'	Operator PLMN List	Yes
'6FC7'	Mailbox Dialling Numbers	Yes
'6FC8'	Extension 6	Yes
'6FC9'	Mailbox Identifier	Caution
'6FCA'	Message Waiting Indication Status	Caution
'6FCB'	Call Forwarding Indication Status	Caution
'6FCC'	Extension 7	Yes
'6FCD'	Service Provider Display Information	Yes
'6FCE'	MMS Notification	Yes
'6FCF'	Extension 8	Yes
'6FD0'	MMS Issuer Connectivity Parameters	Yes
'6FD1'	MMS User Preferences	Yes
'6FD2'	MMS User Connectivity Parameters	Yes
NOTE: If EF_{IMSI} is changed, the SIM should issue REFRESH as defined in TS ~~1~~51.014 [27] and update EF_{LOCI} accordingly.		

3GPP TSG-T3 #26
Lisboa, Portugal, 11 - 14 February 2003

T3-030151

CR-Form-v7

CHANGE REQUEST

⌘ **51.011** **CR** **018** ⌘ **-** ⌘ Current version: **4.6.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	CR 51.011 Rel-4: Example for MMS connectivity parameters
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	14/02/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Discussions in T2 and T3 have shown that the current definitions regarding the storage of MMS connectivity parameters in the T2 and T3 specifications without an additional coding example would potentially result in severe interoperabilily problems between terminals of different manufacturers when a UICC is moved from one terminal to another. Furthermore there is a potential problem with initial provsioning of MMS parameters on the UICC, as the format of the initial provisioning data may not be consistent on different UICCs. T3 and T2 have agreed during the joint T3/T2 session at the T3#26 meeting that an encoding example for the storage of the MMS Connectivity Information as depicted in this change request shall be added to the (U)SIM specifications (TS 31.102 and TS 51.011) in order to avoid misinterpretation.
Summary of change:	⌘	1.) addition of an new encoding example for MMS Connectivity Information in annex J.2. 2.) some minor editorial refinements for encoding example dealing with MMS User Preferences in annex J.1. 3.) update/addition of references to annex J.1 and J.2 in section 4.2.
Consequences if not approved:	⌘	The current definition of how MMS Connectivity Information is stored in the (U)SIM is open to misinterpretation.

Clauses affected:	⌘	Chapter 10.3.53, 10.3.54 and Annex J

		Y	N			
Other specs affected:	⌘		**X**	Other core specifications	⌘	TS 31.102
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

How to create CRs using this form:

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

…

10.3.53 EF_{MMSICP} (MMS Issuer Connectivity Parameters)

If service n°57 is "allocated and activated", this file shall be present.

This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the issuer, which can be used by the ME for user assistance in preparation of connecting to the network for the MMS purpose network connection. This file may contain one or more sets of Multimedia Messaging Issuer Connectivity Parameters. The first set of Multimedia Messaging Issuer Connectivity Parameters is used as the default set. Each set of Multimedia Messaging Issuer Connectivity Parameters may consist of one or more Interface to Core Network and Bearer information TLV objects, but shall contain only one MMS implementation TLV object, one MMS Relay/Server TLV object and one Gateway TLV object. The order of the Interface to Core Network and Bearer information TLV objects in the MMS Connectivity TLV object defines the priority of the Interface to Core Network and Bearer information, with the first TLV object having the highest priority.

Identifier: '6FD0'	Structure: Transparent	Optional
File Size: X_1+…+ X_n bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X_1	MMS Connectivity Parameters TLV object	M	X_1bytes
X_1+1 to X_1 + X_2	MMS Connectivity Parameters TLV object	O	X_2 bytes
…	…		
X_1+…+ X_{n-1}+1 to X_1+…+ X_n	MMS Connectivity Parameters TLV object	O	X_n bytes

- MMS Connectivity Parameters tags

Description	Tag Value
MMS Connectivity Parameters Tag	'AB'
MMS Implementation Tag	‘80’
MMS Relay/Server Tag	‘81’
Interface to Core Network and Bearer Information Tag	'82'
Gateway Tag	'83'

- MMS Connectivity Parameters contents

Description	Value	M/O	Length (bytes)
MMS Connectivity Parameters Tag	'AB'	M	1
Length	Note 1	M	Note 2
MMS Implementation Tag	'80'	M	1
Length	1	M	Note 1
MMS Implementation Information	--	M	1
MMS Relay/Server Tag	'81'	M	1
Length	X	M	Note 2
MMS Relay/Server Address	--	M	X
1st Interface to Core Network and Bearer Information Tag (highest priority)	'82'	M	1
Length	Y1	M	Note 2
1st Interface to Core Network and Bearer information	--	M	Y1
2nd Interface to Core Network and Bearer Information Tag	'82'	O	1
Length	Y2	O	Note 2
2nd Interface to Core Network and Bearer information	--	O	Y2
…	…	…	…
nth Interface to Core Network and Bearer Information Tag (lowest priority)	'82'	O	1
Length	Y3	O	Note 2
Interface to Core Network and Bearer information	--	O	Y3
Gateway Tag	'83'	O	1
Length	Z	O	Note 2
Gateway Information	--	O	Z
Note 1: This is the total size of the constructed TLV object Note 2: The length is coded according to ISO/IEC 8825 [56]			

- MMS Implementation Tag '80'

  See section 10.3.51 for contents and coding.

- MMS Relay/server Tag '81'

  Contents:

  The MMS relay/server contains the address of the associated MMS relay/server.

  Coding:

  The MMS relay/server address is coded according to the guideline provided in 3GPP TS 23.140 [58].

- Interface to Core Network and Bearer Information Tag '82'

  Contents:

  The Interface to Core Network and Bearer Information may contain the following information to set up the bearer: Bearer, Address, Type of address, Speed, Call type, Authentication type, Authentication id, Authentication password.

  Coding:

  The coding is according to the guideline provided in 3GPP TS 23.140 [58].

- Gateway Tag '83'

  Contents:

  The Gateway may contain the following information; Address, Type of address, Port, Service, Authentication type, Authentication id and Authentication password.

  Coding:

The coding is according to the guideline provided in 3GPP TS 23.140 [58].

Unused bytes shall be set to 'FF'.

An Example for the coding of these parameters can be found in Annex K.2.

10.3.54 EF_{MMSUP} (MMS User Preferences)

If service n°57 is "allocated and activated", this file shall be present.

This EF contains values for Multimedia Messaging Service User Preferences, which can be used by the ME for user assistance in preparation of mobile multimedia messages (e.g. default values for parameters that are often used).

Identifier: '6FD1'	Structure: Linear Fixed	Optional
Record Length: X bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	CHV1
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	MMS User Preference TLV Objects	M	X bytes

- MMS User Preference tags

Description	Tag Value
MMS Implementation Tag	'80'
MMS User preference profile name Tag	'81'
MMS User Preference information Tag	'82'

- MMS User Preference information

Description	Value	M/O	Length (bytes)
MMS Implementation Tag	'80'	M	1
Length	1	M	Note
MMS Implementation information	--	M	1
MMS User preference profile name Tag	'81'	M	1
Length	X	M	Note
MMS User profile name	--	M	X
MMS User Preference information Tag	'82'	M	1
Length	Y	M	Note
MMS User Preference information	--	M	Y
Note: The length is coded according to ISO/IEC 8825 [56]			

- MMS Implementation Tag '80'

  For contents and coding see 10.3.51

- MMS User preference profile name Tag '81'

  Contents:

  Alpha-tagging of the MMS user preference profile.

  Coding:

this alpha-tagging shall use either:

- the SMS default 7-bit coded alphabet as defined in TS 23.038 [12] with bit 8 set to 0. The alpha identifier shall be left justified.

or:

- one of the UCS2 coded options as defined in the annex of TS 102 221 [55].

- MMS User Preference information Tag '82'

Contents:

The following information elements may be coded; Sender Visibility, Delivery Report, Read-Reply, Priority, Time of Expiry and Earliest Delivery Time.

Coding:

Depending upon the MMS implementation as indicated in Tag '80'.

An Example for the coding of these parameters can be found in Annex K.1

...

Annex K (informative): Example of MMS coding

K.1 Coding example for MMS User Preferences

0x80 MMS Implementation Tag

0x01 (Length = "1")

0x01 (MMS implementation information = "WAP")

0x81 MMS User Preference Profile Name Tag

0x1C (Length = "28")

(profile name = "Christmas Card"; 14 characters, 28 Bytes)

0x82 MMS User ~~Information~~ Preference Information Tag

0x19 (Length = "25")

0x14 0x80 (visibility~~:~~ = "hide"; 2 Bytes)

0x06 0x80 (delivery report~~:~~ = "yes"; 2 Bytes)

0x10 0x80 (read-reply: = "yes"; 2 Bytes)

0x0F 0x81 (priority: = "normal"; 2 Bytes)

0x07 0x07 0x80 0x05 0x11 0x22 0x33 0x44 0x55
(Delivery-Time-Tag, Value-Length, Absolute-Token-Tag, Date-Value-Length, Date-Value; 9 Bytes)

0x08 0x06 0x81 0x04 0x55 0x22 0x33 0x44
(Expiry Tag, Value-Length, Relative-Token-Tag, Delta-Second-Value-Length, Delta-Second-Value; 8 Bytes)

K.2 Coding Example for MMS Issuer/User Connectivity Parameters

0xAB MMS Connectivity Parameters Tag

0x9F (Length = "159")

0x80 MMS Implementation Tag

0x01 (Length = "1")

0x01 (MMS implementation information = "WAP"; 1 Byte)

0x81 MMS Relay/Server Tag

0x2E (Length = "46")

0x68 0x74 0x74 0x70 0x3A 0x2F 0x2F 0x6D 0x6D 0x73 0x2D 0x6F 0x70 0x65 0x72 0x61 0x74 0x6F 0x72 0x2E 0x63 0x6F 0x6D
(MMS Relay/Server information = "http://mms-operator.com"; 23 characters; 46 Bytes)

0x82 Interface to Core Network and Bearer Tag

0x32 (Length = "50")

0x10 0xAA (bearer = "GSM-CSD"; 2 Bytes)

0x08 0x2B 0x34 0x39 0x35 0x33 0x34 0x31 0x39 0x30 0x36 0x00
(address = "+495341906", 12 Bytes)

0x09 0x87 (type of address = "E164"; 2 Bytes)

0x25 0xC5 (speed = "autobauding"; 2 Bytes)

0x0A 0x90 (call type = "ANALOG_MODEM"; 2 Bytes)

0x0C 0x9A (authentication type = "PAP"; 2 Bytes)

0x0D 0x64 0x75 0x6D 0x6D 0x79 0x5F 0x6E 0x61 0x6D 0x65 0x00
(authentication id = "dummy_name"; 12 Bytes)

0x0E 0x64 0x75 0x6D 0x6D 0x79 0x5F 0x70 0x61 0x73 0x73 0x77 0x6F 0x72 0x64 0x00
(authentication pw = "dummy_password"; 16 Bytes)

0x83 Gateway Tag

0x36 (Length = "54")

0x20 0x31 0x37 0x30 0x2E 0x31 0x38 0x37 0x2E 0x35 0x31 0x2E 0x33 0x00
(address = "170.187.51.3"; 14 Bytes)

0x21 0x85 (type of address = "IPv4"; 2 Bytes)

0x23 0x39 0x32 0x30 0x33 0x00 (port = "9203"; 6 Bytes)

0x24 0xCB (service = "CO-WSP"; 2 Bytes)

0x19 0x9C (authentication type = "HTTP BASIC"; 2 Bytes)

0x1A 0x64 0x75 0x6D 0x6D 0x79 0x5F 0x6E 0x61 0x6D 0x65 0x00
(authentication id = "dummy_name"; 12 Bytes)

0x1B 0x64 0x75 0x6D 0x6D 0x79 0x5F 0x70 0x61 0x73 0x73 0x77 0x6F 0x72 0x64 0x00
(authentication pw = "dummy_password"; 16 Bytes)

...

3GPP TSG-T3 Meeting #26
Lisbon, Portugal, 11-14 February 2003

Tdoc ⌘T3-030174
Revised T3-030159

CR-Form-v7

CHANGE REQUEST

⌘ **51.011** **CR** **019** ⌘**rev** **-** ⌘ Current version: **4.6.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	CR to delete Elementary File $EF_{RPLMNAcT}$, in accordance with TP-020168 from T Plenary in Marco Island.
Source:	⌘	TSG T3
Work item code:	⌘	TEI
Date:	⌘	12/02/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	It has been identified that File $EF_{RPLMNAcT}$ has inconsistent file identifiers in the specification, and TP wrote an LS to CN1 in document TP-020168 requesting that T3 can delete the file from the specifications. CN1 minutes state the following regarding the LS: "Noted. CN1 agreed the proposal in principle but no CRs were presented to this meeting yet. CRs from interested companies were invited for the next CN1 meeting. TSG-T would like to delete USIM file RPLMN last used access technology since it seems to be needed only for GSM compact and the definition is incorrect anyway. If this is agreed then the outcome is that CN1 must change 23.122 to move this information storage from USIM to ME memory." The LS to CN1 noted that there may a corresponding change to TS 23.122. Correction of Pre-personalisation data for the Extension records to align with TS 31.102.
Summary of change:	⌘	The references to $EF_{RPLMNAcT}$ are deleted everywhere in the specification, and the values of the file identifiers are set to "reserved and shall not be used". Service No 50 is also "reserved and shall not be used". Inconsistency with TS 31.102, which causes confusion when defining the pre-personnalisation values of the files for an UICC containing a USIM and a SIM with shared files.
Consequences if not approved:	⌘	Inconsistencies within the specifications, leading to confusion and misinterpretation.

Clauses affected:	⌘	10.3.7, 10.3.40, 10.7, 11, 11.5.22, Annex D, Annex J

		Y	N			
Other specs	⌘	**X**		Other core specifications	⌘	TS 23.122, TS 11.11 (Rel-99), TS 31.102
affected:			**X**	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

10.3.7 EF_{SST} (SIM service table)

This EF indicates which services are allocated, and whether, if allocated, the service is activated. If a service is not allocated or not activated in the SIM, the ME shall not select this service.

Identifier: '6F38'	Structure: transparent	Mandatory
File size: X bytes, X ≥ 2	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	Services n°1 to n°4	M	1 byte
2	Services n°5 to n°8	M	1 byte
3	Services n°9 to n°12	O	1 byte
4	Services n°13 to n°16	O	1 byte
5	Services n°17 to n°20	O	1 byte
6	Services n°21 to n°24	O	1 byte
7	Services n°25 to n°28	O	1 byte
8	Services n°29 to n°32	O	1 byte
etc.			
X	Services (4X-3) to (4X)	O	1 byte

-Services

Contents:

Service n°1:	CHV1 disable function
Service n°2:	Abbreviated Dialling Numbers (ADN)
Service n°3:	Fixed Dialling Numbers (FDN)
Service n°4:	Short Message Storage (SMS)
Service n°5:	Advice of Charge (AoC)
Service n°6:	Capability Configuration Parameters (CCP)
Service n°7:	PLMN selector
Service n°8:	RFU
Service n°9:	MSISDN
Service n°10:	Extension1
Service n°11:	Extension2
Service n°12:	SMS Parameters
Service n°13:	Last Number Dialled (LND)
Service n°14:	Cell Broadcast Message Identifier
Service n°15:	Group Identifier Level 1
Service n°16:	Group Identifier Level 2
Service n°17:	Service Provider Name
Service n°18:	Service Dialling Numbers (SDN)
Service n°19:	Extension3
Service n°20:	RFU
Service n°21:	VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
Service n°22:	VBS Group Identifier List (EF_{VBS} and EF_{VBSS})
Service n°23:	enhanced Multi-Level Precedence and Pre-emption Service
Service n°24:	Automatic Answer for eMLPP
Service n°25:	Data download via SMS-CB
Service n°26:	Data download via SMS-PP
Service n°27:	Menu selection
Service n°28:	Call control
Service n°29:	Proactive SIM
Service n°30:	Cell Broadcast Message Identifier Ranges
Service n°31:	Barred Dialling Numbers (BDN)
Service n°32:	Extension4
Service n°33:	De-personalization Control Keys
Service n°34:	Co-operative Network List
Service n°35:	Short Message Status Reports
Service n°36:	Network's indication of alerting in the MS
Service n°37:	Mobile Originated Short Message control by SIM
Service n°38:	GPRS
Service n°39:	Image (IMG)
Service n°40:	SoLSA (Support of Local Service Area)
Service n°41:	USSD string data object supported in Call Control
Service n°42:	RUN AT COMMAND command
Service n°43:	User controlled PLMN Selector with Access Technology

Service n 44:	Operator controlled PLMN Selector with Access Technology
Service n 45:	HPLMN Selector with Access Technology
Service n 46:	CPBCCH Information
Service n 47:	Investigation Scan
Service n°48:	Extended Capability Configuration Parameters
Service n°49:	MExE
Service n°50:	~~RPLMN last used Access Technology~~Reserved and shall not be used
Service n°51:	PLMN Network Name
Service n°52:	Operator PLMN List
Service n°53:	Mailbox Dialling Numbers
Service n°54:	Message Waiting Indication Status
Service n°55:	Call Forwarding Indication Status
Service n°56:	Service Provider Display Information
Service n°57:	Multimedia Messaging Service (MMS)
Service n°58:	Extension 8
Service n°59:	MMS User Connectivity Parameters

For a phase 2 SIM, the EF shall contain at least two bytes which correspond to the Phase 1 services. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of ETSI.

NOTE 1: Service N°8 was used in Phase 1 for Called Party Subaddress. To prevent any risk of incompatibility Service N°8 should not be reallocated.

NOTE 2: As the BDN service relies on the Call Control feature, service n°31 (BDN) should only be allocated and activated if service n°28 (Call control) is allocated and activated.

Coding:

2 bits are used to code each service:

first bit = 1: service allocated

first bit = 0: service not allocated

where the first bit is b1, b3, b5 or b7;

second bit = 1: service activated

second bit = 0: service not activated

where the second bit is b2, b4, b6 or b8.

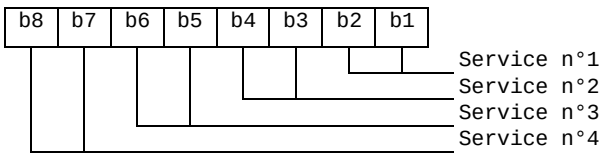
Service allocated means that the SIM has the capability to support the service. Service activated means that the service is available for the card holder (only valid if the service is allocated).

The following codings are possible:

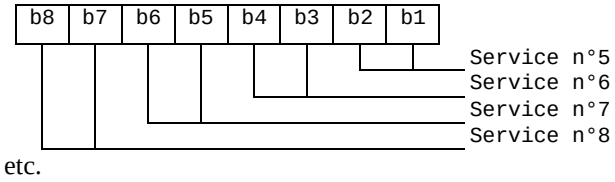
- first bit = 0: service not allocated, second bit has no meaning;
- first bit = 1 and second bit = 0: service allocated but not activated;
- first bit = 1 and second bit = 1: service allocated and activated.

The bits for services not yet defined shall be set to RFU. For coding of RFU see clause 9.3.

First byte:

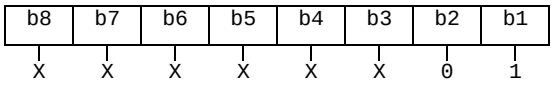


Second byte:



etc.

The following example of coding for the first byte means that service n°1 "CHV1-Disabling" is allocated but not activated:



If the SIM supports the FDN feature (FDN allocated and activated) a special mechanism shall exist in the SIM which invalidates both EF_{IMSI} and EF_{LOCI} once during each GSM session. This mechanism shall be invoked by the SIM automatically if FDN is enabled. This invalidation shall occur at least before the next command following selection of either EF. FDN is enabled when the ADN is invalidated or not activated.

If the SIM supports the BDN feature (BDN allocated and activated) a special mechanism shall exist in the SIM which invalidates both EF_{IMSI} and EF_{LOCI} once during each GSM session and which forbids the REHABILITATE command to rehabilitate both EF_{IMSI} and EF_{LOCI} until the PROFILE DOWNLOAD procedure is performed indicating that the ME supports the "Call control by SIM" facility. This mechanism shall be invoked by the SIM automatically if BDN is enabled. The invalidation of EF_{IMSI} and EF_{LOCI} shall occur at least before the next command following selection of either EF. BDN is enabled when the EF_{BDN} is not invalidated.

NEXT REVISED SECTION

10.3.40 ~~10.3.40~~ Void

~~$EF_{RPLMNAcT}$ (RPLMN Last used Access Technology)~~

~~This EF contains the last used access technology for the Registered PLMN, RPLMN. (see TS 23.122 [50]). This EF shall contain only one access technology.~~

~~NOTE: One access technology means that only one bit is set in the entire field.~~

~~If this EF does not exist on the SIM, then the MS shall assume that RPLMN access technology is GSM.~~

~~Identifier: '6F65'~~	~~Structure: transparent~~	~~Optional~~
~~File size: 2+X bytes~~	~~Update activity: High~~	

~~Access Conditions:~~
~~READ CHV1~~
~~UPDATE CHV1~~
~~INVALIDATE ADM~~
~~REHABILITATE ADM~~

~~Bytes~~	~~Description~~	~~M/O~~	~~Length~~
~~1 to 2~~	~~Access Technology of RPLMN~~	~~M~~	~~2 bytes~~
~~3 to 2+X~~	~~RFU~~	~~O~~	~~X bytes~~

~~Access Technology~~

~~Coding:~~

~~See $EF_{PLMNwAcT}$ for coding.~~

_____

NEXT CHANGED SECTION

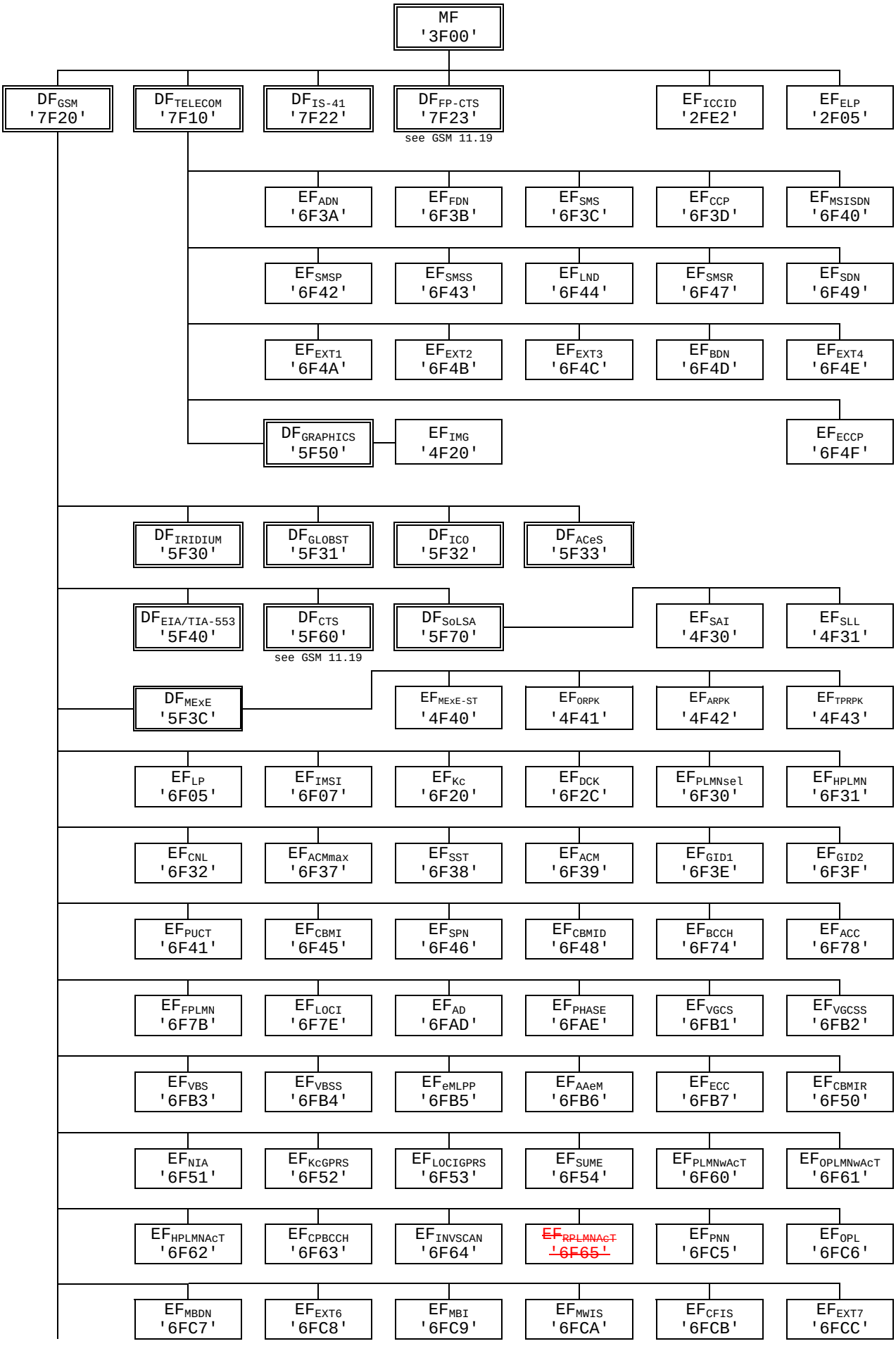
_____

10.7 Files of GSM

This clause contains a figure depicting the file structure of the SIM. DF_{GSM} shall be selected using the identifier '7F20'. If selection by this means fails, then DCS 1800 MEs shall, and optionally GSM MEs may then select DF_{GSM} with '7F21'.

NOTE 1: The selection of the GSM application using the identifier '7F21', if selection by means of the identifier '7F20' fails, is to ensure backwards compatibility with those Phase 1 SIMs which only support the DCS 1800 application using the Phase 1 directory $DF_{DCS1800}$ coded '7F21'.

NOTE 2: To ensure backwards compatibility with those Phase 1 DCS 1800 MEs which have no means to select DF_{GSM} two options have been specified. These options are given in GSM 09.91 [17].


MF '3F00'
DFGSM '7F20'
DFTELECOM '7F10'
DFIS-41 '7F22'
DFFP-CTS '7F23'
see GSM 11.19
EFICCID '2FE2'
EFELP '2F05'
EFADN '6F3A'
EFFDN '6F3B'
EFSMS '6F3C'
EFCCP '6F3D'
EFMSISDN '6F40'
EFSMSP '6F42'
EFSMSS '6F43'
EFLND '6F44'
EFSMSR '6F47'
EFSDN '6F49'
EFEXT1 '6F4A'
EFEXT2 '6F4B'
EFEXT3 '6F4C'
EFBDN '6F4D'
EFEXT4 '6F4E'
DFGRAPHICS '5F50'
EFIMG '4F20'
EFECCP '6F4F'
DFIRIDIUM '5F30'
DFGLOBST '5F31'
DFICO '5F32'
DFACeS '5F33'
DFEIA/TIA-553 '5F40'
DFCTS '5F60'
see GSM 11.19
DFSoLSA '5F70'
EFSAI '4F30'
EFSLL '4F31'
DFMExE '5F3C'
EFMExE-ST '4F40'
EFORPK '4F41'
EFARPK '4F42'
EFTPRPK '4F43'
EFLP '6F05'
EFIMSI '6F07'
EFKc '6F20'
EFDCK '6F2C'
EFPLMNsel '6F30'
EFHPLMN '6F31'
EFCNL '6F32'
EFACMmax '6F37'
EFSST '6F38'
EFACM '6F39'
EFGID1 '6F3E'
EFGID2 '6F3F'
EFPUCT '6F41'
EFCBMI '6F45'
EFSPN '6F46'
EFCBMID '6F48'
EFBCCH '6F74'
EFACC '6F78'
EFFPLMN '6F7B'
EFLOCI '6F7E'
EFAD '6FAD'
EFPHASE '6FAE'
EFVGCS '6FB1'
EFVGCSS '6FB2'
EFVBS '6FB3'
EFVBSS '6FB4'
EFeMLPP '6FB5'
EFAAeM '6FB6'
EFECC '6FB7'
EFCBMIR '6F50'
EFNIA '6F51'
EFKcGPRS '6F52'
EFLOCIGPRS '6F53'
EFSUME '6F54'
EFPLMNwAcT '6F60'
EFOPLMNwAcT '6F61'
EFHPLMNAcT '6F62'
EFCPBCCH '6F63'
EFINVSCAN '6F64'
~~EFRPLMNAcT '6F65'~~
EFPNN '6FC5'
EFOPL '6FC6'
EFMBDN '6FC7'
EFEXT6 '6FC8'
EFMBI '6FC9'
EFMWIS '6FCA'
EFCFIS '6FCB'
EFEXT7 '6FCC'

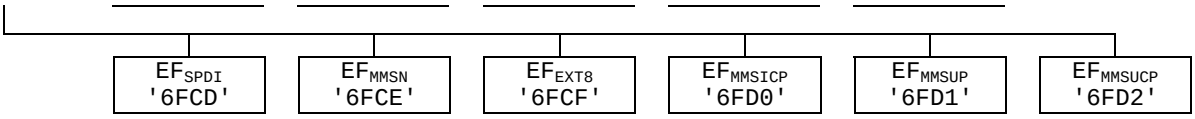


Figure 8: File identifiers and directory structures of GSM

NEXT CHANGED SECTION

---

11 Application protocol

When involved in GSM administrative management operations, the SIM interfaces with appropriate terminal equipment. These operations are outside the scope of the present document.

When involved in GSM network operations the SIM interfaces with an ME with which messages are exchanged. A message can be a command or a response.

- A GSM command/response pair is a sequence consisting of a command and the associated response.
- A GSM procedure consists of one or more GSM command/response pairs which are used to perform all or part of an application-oriented task. A procedure shall be considered as a whole, that is to say that the corresponding task is achieved if and only if the procedure is completed. The ME shall ensure that, when operated according to the manufacturer's manual, any unspecified interruption of the sequence of command/response pairs which realize the procedure, leads to the abortion of the procedure itself.
- A GSM session of the SIM in the GSM application is the interval of time starting at the completion of the SIM initialization procedure and ending either with the start of the GSM session termination procedure, or at the first instant the link between the SIM and the ME is interrupted.

During the GSM network operation phase, the ME plays the role of the master and the SIM plays the role of the slave.

The SIM shall execute all GSM and SIM Application Toolkit commands or procedures in such a way as not to jeopardise, or cause suspension, of service provisioning to the user. This could occur if, for example, execution of the RUN GSM ALGORITHM is delayed in such a way which would result in the network denying or suspending service to the user.

Some procedures at the SIM/ME interface require MMI interactions. The descriptions hereafter do not intend to infer any specific implementation of the corresponding MMI. When MMI interaction is required, it is marked "MMI" in the list given below.

Some procedures are not clearly user dependent. They are directly caused by the interaction of the MS and the network. Such procedures are marked "NET" in the list given below.

Some procedures are automatically initiated by the ME. They are marked "ME" in the list given below.

The list of procedures at the SIM/ME interface in GSM network operation is as follows:

General Procedures:

- Reading an EF ME
- Updating an EF ME
- Increasing an EF ME

SIM management procedures:

- SIM initialization ME
- GSM session termination ME

- Emergency call codes request ME
- Extended language preference request ME
- Language preference request ME
- Administrative information request ME
- SIM service table request ME
- SIM phase request ME

CHV related procedures:

- CHV verification MMI
- CHV value substitution MMI
- CHV disabling MMI
- CHV enabling MMI
- CHV unblocking MMI

GSM security related procedures:

- GSM algorithms computation NET
- IMSI request NET
- Access control information request NET
- HPLMN search period request NET
- Location Information NET
- GPRS Location Information NET
- Cipher key NET
- GPRS Cipher key NET
- BCCH information NET
- Forbidden PLMN information NET
- LSA information NET

Subscription related procedures:

- Dialling Numbers (ADN, FDN, MSISDN, LND, SDN, BDN) MMI/ME
- Short messages (SMS) MMI
- Advice of Charge (AoC) MMI
- Capability Configuration Parameters (CCP) MMI
- PLMN Selector MMI
- HPLMN Selector with Access Technology MMI
- User controlled PLMN Selector with Access Technology MMI
- Operator controlled PLMN Selector with Access Technology MMI
- ~~RPLMN last used Access Technology MMI~~
- Investigation Scan request NET

- CPBCCH information NET
- Cell Broadcast Message Identifier (CBMI) MMI
- Group Identifier Level 1 (GID1) MMI/ME
- Group Identifier Level 2 (GID2) MMI/ME
- Service Provider Name (SPN) ME
- Voice Group Call Service (VGCS) MMI/ME
- Voice Broadcast Service (VBS) MMI/ME
- Enhanced Multi Level Pre-emption and Priority (eMLPP) MMI/ME
- Depersonalisation Control Keys ME
- Short message status reports (SMSR) MMI
- Network's indication of alerting ME

SIM Application Toolkit related procedures:

- Data Download via SMS-CB (CBMID) NET
- Data Download via SMS-PP NET
- Menu selection MMI
- Call Control MMI/ME/NET
- Proactive SIM MMI/ME/NET
- Mobile Originated Short Message control by SIM MMI/ME/NET
- Image Request MMI/ME

MExE related procedures:

- Reading of MExE_ST ME
- Reading of root public keys on the SIM (ORPK, ARPK,TPRPK) ME/NET

The procedures listed in clause 11.2 are basically required for execution of the procedures in clauses 11.3, 11.4 and 11.5. The procedures listed in clauses 11.3 and 11.4 are mandatory (see TS 02.17 [6]). The procedures listed in clause 11.5 are only executable if the associated services, which are optional, are provided in the SIM. However, if the procedures are implemented, it shall be in accordance with clause 11.5.

If a procedure is related to a specific service indicated in the SIM Service Table, it shall only be executed if the corresponding bits denote this service as "allocated and activated" (see clause 10.3.7). In all other cases this procedure shall not start.

_____

NEXT CHANGED SECTION

_____

11.2.1 SIM initialization

After SIM activation (see clause 4.3.2), the ME selects the Dedicated File DF_{GSM} and optionally attempts to select EF_{ECC} If EF_{ECC} is available, the ME requests the emergency call codes.

The ME requests the Extended Language Preference. The ME only requests the Language Preference (EF_{LP}) if at least one of the following conditions holds:

- EF_{PL} is not available;
- EF_{PL} does not contain an entry corresponding to a language specified in ISO 639[30];
- the ME does not support any of the languages in EF_{PL}.

If both EFs are not available or none of the languages in the EFs is supported then the ME selects a default language. It then runs the CHV1 verification procedure.

If the CHV1 verification procedure is performed successfully, the ME then runs the SIM Phase request procedure.

For a SIM requiring PROFILE DOWNLOAD, then the ME shall perform the PROFILE DOWNLOAD procedure in accordance with TS 11.14 [27]. When BDN is enabled on a SIM, the PROFILE DOWNLOAD procedure is used to indicate to the SIM whether the ME supports the "Call Control by SIM" facility. If so, then the SIM is able to allow the REHABILITATE command to rehabilitate EF_{IMSI} and EF_{LOCI}.

If the ME detects a SIM of Phase 1, it shall omit the following procedures relating to FDN and continue with the Administrative Information request. The ME may omit procedures not defined in Phase 1 such as HPLMN Search Period request.

For a SIM of Phase 2 or greater, GSM operation shall only start if one of the two following conditions is fulfilled:

- if EF_{IMSI} and EF_{LOCI} are not invalidated, the GSM operation shall start immediately;
- if EF_{IMSI} and EF_{LOCI} are invalidated, the ME rehabilitates these two EFs.

  MEs without FDN capability but with Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} if FDN is enabled in the SIM and therefore have no access to these EFs. GSM operation will therefore be prohibited;

  MEs without FDN capability and without Call control by SIM facility shall not rehabilitate EF_{IMSI} and/or EF_{LOCI} and therefore have no access to these EFs. GSM operation will therefore be prohibited.

  It is these mechanisms which are used for control of services n°3 and n°31 by the use of SIMs for these services which always invalidate these two EFs at least before the next command following selection of either EF.

NOTE: When FDN and BDN are both enabled, and if the ME supports FDN but does not support the Call control by SIM facility, the rehabilitation of EF_{IMSI} and EF_{LOCI} will not be successful because of a restriction mechanism of the REHABILITATE command linked to the BDN feature.

When EF_{IMSI} and EF_{LOCI} are successfully rehabilitated, if the FDN capability procedure indicates that:

i) FDN is allocated and activated in the SIM; and FDN is set "enabled", i.e. ADN "invalidated" or not activated; and the ME supports FDN; or

ii) FDN is allocated and activated in the SIM; and FDN is set "disabled", i.e. ADN "not invalidated"; or

iii) FDN is not allocated or not activated;

then GSM operation shall start.

In all other cases GSM operation shall not start.

Afterwards, the ME runs the following procedures, subject to the service being supported both by the ME and the SIM:

- Administrative Information request;
- SIM Service Table request;
- IMSI request;
- Access Control request;
- HPLMN Search Period request;
- Investigation scan request;

- PLMN selector request;
- HPLMN Selector with Access Technology request;
- User controlled PLMN Selector with Access Technology request;
- Operator controlled PLMN Selector with Access Technology request;
- ~~RPLMN last used Access Technology request;~~
- Location Information request;
- GPRS Location Information request;
- Cipher Key request;
- GPRS Cipher Key request;
- BCCH information request;
- CPBCCH information request;
- Forbidden PLMN request;
- LSA information request;
- CBMID request;
- Depersonalisation Control Keys request;
- Network's indication of alerting request.

If the SIM service table indicates that the proactive SIM service is active, then from this point onwards, the ME, if it supports the proactive SIM service, shall send STATUS commands at least every 30s during idle mode as well as during calls, in order to enable the proactive SIM to respond with a command. The SIM may send proactive commands (see TS 11.14 [27]), including a command to change the interval between STATUS commands from the ME, when in idle mode. In-call requirements for STATUS for SIM Presence Detection are unchanged by this command.

After the SIM initialization has been completed successfully, the MS is ready for a GSM session.

11.2.2 GSM session termination

NOTE 1: This procedure is not to be confused with the deactivation procedure in clause 4.3.2.

The GSM session is terminated by the ME as follows.

The ME runs all the procedures which are necessary to transfer the following subscriber related information to the SIM, subject to the service being supported both by the ME and the SIM:

- Location Information update;
- GPRS Location Information update;
- Cipher Key update;
- GPRS Cipher Key update;
- BCCH information update;
- CPBCCH information update;
- ~~RPLMN last used Access Technology update;~~
- Advice of Charge increase;
- Forbidden PLMN update.

As soon as the SIM indicates that these procedures are completed, the ME/SIM link may be deactivated.

Finally, the ME deletes all these subscriber related information elements from its memory.

NOTE 2: If the ME has already updated any of the subscriber related information during the GSM Session, and the value has not changed until GSM session termination, the ME may omit the respective update procedure.

11.5.22 VoidRPLMN last used Access Technology

~~Requirement: Service n°50 "allocated and activated".~~

~~Request: The ME performs the reading procedure with $EF_{RPLMNAcT}$.~~

~~Update: The ME performs the updating procedure with $EF_{RPLMNAcT}$.~~

NEXT CHANGED SECTION

Annex D (informative): Suggested contents of the EFs at pre-personalization

If EFs have an unassigned value, it may not be clear from the main text what this value should be. This annex suggests values in these cases.

File Identification	Description	Value
'2FE2'	ICC identification	operator dependant (see 10.1.1)
'2F05'	Extended Language preference	'FF…FF'
'6F05'	Language preference	'FF'
'6F07'	IMSI	operator dependant (see 10.3.2)
'6F20'	Ciphering key Kc	'FF...FF07'
'6F30'	PLMN selector	'FF...FF'
'6F31'	HPLMN search period	'FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	SIM service table	operator dependant (see 10.3.7)
'6F39'	Accumulated call meter	'000000'
'6F3E'	Group identifier level 1	operator dependant
'6F3F'	Group identifier level 2	operator dependant
'6F41'	PUCT	'FFFFFF0000'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	'FF...FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F74'	BCCH information	'FF...FF'
'6F78'	Access control class	operator dependant (see 10.3.15)
'6F7B'	Forbidden PLMNs	'FF...FF'
'6F7E	Location information	'FFFFFFFF xxxxxx 0000 FF 01' (see note 2)
'6FAD'	Administrative data	operator dependant (see 10.3.18)
'6FAE'	Phase identification	see 10.3.16
'6F3A'	Abbreviated dialling numbers	'FF...FF'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3D'	Capability configuration parameters	'FF...FF'
'6F40'	MSISDN storage	'FF...FF'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F44'	Last number dialled	'FF...FF'
'6F47'	Short message status reports	'00FF…FF'
'6F4A'	Extension 1	'00 FF...FF'
'6F4B'	Extension 2	'00 FF...FF'
'6F4C'	Extension 3	'00 FF...FF'
'6F4D'	Barred dialling numbers	'FF...FF'
'6F4E'	Extension 4	'00 FF...FF'
'6F4F'	Extended capability configuration parameters	'FF...FF'
'6F51'	Network's indication of alerting	'FF...FF'
'6F52'	GPRS Ciphering key KcGPRS	'FF...FF07'
'6F53'	GPRS Location Information	'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F54'	SetUpMenu Elements	operator dependant (see 10.3.34)
'6F58'	Comparison method information	'FF…FF'
'6F60'	User controlled PLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F61'	Operator controlled PLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F62'	HPLMN Selector with Access Technology	'FFFFFF0000..FFFFFF0000'
'6F63'	CPBCCH information	'FF..FF'
'6F64'	Investigation Scan	'00'
'6F65'	~~RPLMN last used Access Technology~~Reserved and shall not be used	~~'0000'~~N/A

Continued

File Identification	Description	Value
'4F20'	Image data	'00FF...FF'
'4F30'	SoLSA Access Indicator)	'00FF...FF'
'4F31'	SoLSA LSA List	'FF...FF'
'6FC5'	PLMN Network Name	Operator dependant
'6FC6'	Operator PLMN List	Operator dependant
'6FC7'	Mailbox Dialling Numbers	Operator dependant
'6FC8'	Extension 6	'00 FF...FF'
'6FC9'	Mailbox Identifier	Operator dependant
'6FCA'	Message Waiting Indication Status	'00 00 00 00 00'
'6FCB'	Call Forwarding Indication Status	'xx 00 FF...FF'
'6FCC'	Extension 7	'00 FF...FF'
'6FCD'	Service Provider display Information	'FF...FF'
'6FCE'	MMS Notification	'00 00 00 FF…FF'
'6FCF'	Extension 8	'00 FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

NOTE 1: The value '000000' means that ACMmax is not valid, i.e. there is no restriction on the ACM. When assigning a value to ACMmax, care should be taken not to use values too close to the maximum possible value 'FFFFFF', because the INCREASE command does not update EF_{ACM} if the units to be added would exceed 'FFFFFF'. This could affect the call termination procedure of the Advice of Charge function.

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 04.08 [15].

_____

NEXT CHANGED SECTION

_____

Annex I (informative): EF changes via Data Download or SIM Toolkit applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by SIM Toolkit Application (e.g. by using the SIM API), is advisable. Updating of certain EFs, "over the air" such as EF_{ACC} could result in unpredictable behaviour of the MS; these are marked "Caution" in the table below. Certain EFs are marked "No"; under no circumstances should "over the air" changes of these EFs be considered.

File identification	Description	Change advised
'2F05'	Extended Language preference	Yes
'2FE2'	ICC identification	No
'4F20'	Image data	Yes
'4Fxx'	Image Instance data Files	Yes
'6F05'	Language preference	Yes
'6F07'	IMSI	Caution (note)
'6F20'	Ciphering key Kc	No
'6F2C'	De-personalization Control Keys	Caution
'6F30'	PLMN selector	Caution
'6F31'	HPLMN search period	Caution
'6F32'	Co-operative network	Caution
'6F37'	ACM maximum value	Yes
'6F38'	SIM service table	Caution
'6F39'	Accumulated call meter	Yes
'6F3A'	Abbreviated dialling numbers	Yes
'6F3B'	Fixed dialling numbers	Yes
'6F3C'	Short messages	Yes
'6F3D'	Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes
'6F40'	MSISDN storage	Yes
'6F41'	PUCT	Yes
'6F42'	SMS parameters	Yes
'6F43'	SMS status	Yes
'6F44'	Last number dialled	Yes
'6F45'	CBMI	Caution
'6F46'	Service provider name	Yes
'6F47'	Short message status reports	Yes
'6F48'	CBMID	Yes
'6F49'	Service Dialling Numbers	Yes
'6F4A'	Extension 1	Yes
'6F4B'	Extension 2	Yes
'6F4C'	Extension 3	Yes
'6F4D'	Barred dialling numbers	Yes
'6F4E'	Extension 4	Yes
‘6F4F’	Extended Capability configuration parameters	Yes
'6F50'	CBMIR	Yes
'6F51'	Network's indication of alerting	Caution
'6F52'	GPRS Ciphering key KcGPRS	No
'6F53'	GPRS Location Information	Caution
'6F58'	Comparison method information	
'6F60'	User controlled PLMN Selector with Access Technology	see 3GPP TS 22.011
'6F61'	Operator controlled PLMN Selector with Access Technology	Caution
'6F62'	HPLMN Selector with Access Technology	Caution
'6F63'	CPBCCH information	No
'6F64'	Investigation scan	Caution
'6F65'	~~RPLMN last used Access Technology~~Reserved and shall not be used	~~No~~N/A
'6F74'	BCCH information	No
'6F78'	Access control class	Caution
'6F7B'	Forbidden PLMNs	Caution
'6F7E'	Location information	No (note)

Continued.....

File identification	Description	Change advised
'6FAD'	Administrative data	Caution
'6FAE'	Phase identification	Caution
'6FB1'	Voice Group Call Service	Yes
'6FB2'	Voice Group Call Service Status	Yes
'6FB3'	Voice Broadcast Service	Yes
'6FB4'	Voice Broadcast Service Status	Yes
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
'6FC5'	PLMN Network Name	Yes
'6FC6'	Operator PLMN List	Yes
'6FC7'	Mailbox Dialling Numbers	Yes
'6FC8'	Extension 6	Yes
'6FC9'	Mailbox Identifier	Caution
'6FCA'	Message Waiting Indication Status	Caution
'6FCB'	Call Forwarding Indication Status	Caution
'6FCC'	Extension 7	Yes
'6FCD'	Service Provider Display Information	Yes
'6FCE'	MMS Notification	Yes
'6FCF'	Extension 8	Yes
'6FD0'	MMS Issuer Connectivity Parameters	Yes
'6FD1'	MMS User Preferences	Yes
'6FD2'	MMS User Connectivity Parameters	Yes
NOTE: If EF_{IMSI} is changed, the SIM should issue REFRESH as defined in TS 11.14 [27] and update EF_{LOCI} accordingly.		