3GPP TSG-T (Terminals) Meeting #16
Marco Island, USA 4 – 6 June 2002

Tdoc TP-020112

Source: T3

Title: Change Requests to TS 31.102 Characteristics of the USIM Application

Document for: Approval

This document contains several change requests as follows:

T3 Doc	Spec	CR	Rel	Cat	Subject
T3-020336	31.102	108	4	F	Essential clarifications and corrections
T3-020337	31.102	109	5	F	Essential clarifications and corrections
T3-020422	31.102	110	5	F	Handling of different sets of connectivity parameters and automatic bearer selection
T3-020423	31.102	111	4	F	Handling of different sets of connectivity parameters and automatic bearer selection
T3-020414	31.102	112	99	F	CMI - Alignment with TS 11.11 R99
T3-020415	31.102	113	4	F	CMI - Alignment with TS 51.011 REL-4
T3-020416	31.102	114	5	F	CMI - Alignment with TS 51.011 REL-5

3GPP T3 Meeting #23
Espoo, Finland, 21-24 May 2002

Tdoc T3-020336

CR-Form-v3

CHANGE REQUEST

⌘ **31.102 CR 108** ⌘ rev ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Essential clarifications and corrections
Source:	⌘	T3
Work item code:	⌘	UICC1
Date:	⌘	21/05/02
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	Missing definition. Solsa related information is not defined in 3G. Some SIM terminology is not valid for the USIM. Files ID and other data missing or incorrect in annexes A and E.
Summary of change:	⌘	Introduction of definition. Removal of Solsa related information. Replacement of GSM terminology not used in the USIM by the USIM terminology. Update of annexes A and E.
Consequences if not approved:	⌘	Inconsistency of the specification

Clauses affected:	⌘	4, 4.2.1, 4.2.21, 4.2.41, 4.3, 4.4, 5, 5.1.1.1, 5.1.4, 5.2.1, 5.2.8, 5.5, 7.1.1, 7.3, 7.3.1, Annexes A, E, F
Other specs Affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] 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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

4 Contents of the Files

This clause specifies the EFs for the 3G session defining access conditions, data items and coding. A data item is a part of an EF which represents a complete logical entity, e.g. the alpha tag in an EF_{ADN} record.

EFs or data items having an unassigned value, or, which during the 3G session, are cleared by the ME, shall have their bytes set to 'FF'. After the administrative phase all data items shall have a defined value or have their bytes set to 'FF'. If a data item is 'deleted' during a 3G session by the allocation of a value specified in another 3GPP TS, then this value shall be used and the data item is not unassigned. For example, for a deleted LAI in EF_{LOCI} the last byte takes the value 'FE' (TS 24.008 [9] refers).

EFs are mandatory (M), ~~or~~ optional (O), or conditional (C). A conditional file is mandatory if a specific requirement is fulfilled. The file size of an optional EF may be zero. All implemented EFs with a file size greater than zero shall contain all mandatory data items. Optional data items may either be filled with 'F', or, if located at the end of an EF, need not exist.

When the coding is according to ITU-T Recommendation T.50 [23], bit 8 of every byte shall be set to 0.

For an overview containing all files see figures 4.1 and 4.2.

[…]

4.2.1 EF_{LI} (Language Indication)

This EF contains the codes for one or more languages. This information, determined by the user/operator, defines the preferred languages of the user in order of priority. This information may be used by the ME for MMI purposes. This information may also be used for the screening of Cell Broadcast messages in a preferred language, as follows.

When the CB Message Identifier capability is available, the ME selects only those CB messages the language of which corresponds to an entry in this EF or in $EF_{PL,}$ whichever of these EFs is used (see clause 5.1.1). The CB message language is defined by the Data Coding Scheme (DCS: see TS 23.038 [5]) received with the CB message. The ME shall be responsible for translating the language coding indicated in the Data Coding Scheme for the Cell Broadcast Service (as defined in TS 23.038 [5]) to the language coding as defined in ISO 639 [19] if it is necessary to check the language coding in EF_{PL}.

Identifier: '6F 05'	Structure: transparent	Optional
SFI: '02'		
File size: 2n bytes	Update activity: low	
Access Conditions: READ ALW UPDATE PIN DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to 2	1st language code (highest priority).	M	2 bytes
3 to 4	2nd language code	O	2 bytes
2n-1 to 2n	Nth~~th~~ language code (lowest priority).	O	2 bytes

Coding:

- each language code is a pair of alpha-numeric characters, defined in ISO 639 [19]. Each alpha-numeric character shall be coded on one byte using the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0.

Unused language entries shall be set to 'FF FF'.

[…]

4.2.21 EF_{ECC} (Emergency Call Codes)

This EF contains emergency call codes.

Identifier: '6FB7'	Structure: linear fixed	Mandatory
SFI: '01'		
Record size: X+4 bytes	Update activity: low	
Access Conditions: READ ALW UPDATE ADM DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to 3	Emergency Call Code	M	3 bytes
4 to X+3	Emergency Call Code Alpha Identifier	O	X bytes
X+4	Emergency Service Category	M	1 byte

- Emergency Call Code.
  Contents:
  - Emergency Call Code.

  Coding:
  - the emergency call code is of a variable length with a maximum length of 6 digits. Each emergency call code is coded on three bytes, with each digit within the code being coded on four bits as shown below. If a code of less than 6 digits is chosen, then the unused nibbles shall be set to 'F'. ~~If EF_{ECC} does not contain any valid number, the UE shall use the emergency numbers it stores for use in setting up an emergency call without a USIM.~~

[…]

4.2.41 Void~~EF$_{GMSI}$ (Group Identity)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

[…]

4.3 DFs at the USIM ADF (Application DF) Level

DFs may be present as child directories of USIM ADF. The following DFs are defined:

- $DF_{PHONEBOOK}$ '5F3A'.
- DF_{GSM} '5F3B'.
- DF_{MExE} '5F3C'.

(DF for application specific phonebook. This DF has the same structure as the $DF_{PHONEBOOK}$ under $DF_{TELECOM}$).

'5F70' is reserved for DF_{SoLSA} ~~and is expected to be defined in the release 2000 version of the present document~~.

4.4 Contents of DFs at the USIM ADF (Application DF) level

4.4.1 Contents of files at the DF SoLSA level

~~This clause is expected to be defined in the release 2000 version of the present document.~~Void.

~~4.4.1.1 EF_{SAI} (SoLSA Access Indicator)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

~~4.4.1.2 EF_{SLL} (SoLSA LSA List)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

~~4.4.1.3 LSA Descriptor files~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

[…]

5 Application protocol

When involved in ~~3G~~ administrative management operations, the USIM interfaces with appropriate equipment. These operations are outside the scope of the present document.

When involved in ~~3G~~ network operations the USIM interfaces with an ME with which messages are exchanged. A message can be a command or a response.

- A USIM Application command/response pair is a sequence consisting of a command and the associated response.
- A USIM Application procedure consists of one or more USIM Application 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 realise the procedure, leads to the abortion of the procedure itself.
- A ~~3G session of the~~ USIM session ~~in the 3G application~~ is the interval of time starting at the completion of the USIM initialisation procedure and ending either with the start of the 3G session termination procedure, or at the first instant the link between the UICC and the ME is interrupted.

During the ~~3G~~ network operation phase, the ME plays the role of the master and the USIM plays the role of the slave.

The USIM shall execute all ~~3G and USIM Application Toolkit~~ commands ~~or procedures~~ defined in TS 31.101 [11], if applicable for the USIM (see section 8.3 for optional commands), including USAT commands, 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 AUTHENTICATE is delayed in such a way which would result in the network denying or suspending service to the user.

The procedures listed in clause "USIM management procedures" are required for execution of the procedures in the subsequent clauses "USIM security related procedures" and "Subscription related procedures". The procedures listed in clauses "USIM security related procedures" are mandatory. The procedures listed in "Subscription related procedures" are only executable if the associated services, which are optional, are provided in the USIM. However, if the procedures are implemented, it shall be in accordance with clause "Subscription related procedures".

If a procedure is related to a specific service indicated in the USIM Service Table, it shall only be executed if the corresponding bits denote this service as "service available" (see clause "EF_{UST}"). In all other cases the procedure shall not start.

[…]

5.1.1.1 USIM application selection

After UICC activation (see TS 31.101 [11]), the ME selects a USIM application. If no EF_{DIR} file is found or no USIM applications are listed in the EF_{DIR} file, the ME then tries to select the GSM application as specified in TS 51.011 [18].

Note: there may be cards that need to be reset before selecting the GSM application.

After a successful USIM application selection, the selected USIM (AID) is stored on the UICC. This application is referred to as the last selected application. The last selected application shall be available on the UICC after a deactivation followed by an activation of the UICC.

If a USIM application is selected using partial DF name, the partial DF name supplied in the command shall uniquely identify a USIM application. Furthermore if a USIM application is selected using a partial DF name as specified in TS 31.101 [11] indicating in the SELECT command the last occurrence the UICC shall select the USIM application stored as the last application. If, in the SELECT command, the options first, next/previous are indicated, they have no meaning if an application has not been previously selected in the same session and shall return an appropriate error code.

[…]

5.1.4 Emergency call codes

Request: The ME performs the reading procedure with EF_{ECC}. If EF_{ECC} does not contain any valid number, the ME shall use the emergency numbers it stores for use in setting up an emergency call without a USIM.

Update: The ME performs the updating procedure with EF_{ECC}.

NOTE: The update procedure is only applicable when access conditions of ADM for update is set to ALW, PIN or PIN2.

[…]

5.2.1 Authentication algorithms computation

The ME selects a USIM application and uses the AUTHENTICATE command (see 7.1.1). The response is sent to the ME (in case of the T=0 protocol when requested by a subsequent GET RESPONSE command).

After a sSuccessful AUTHENTICATE command, the ME shall perform cCipher and iIntegrity key update procedure.

[…]

5.2.8 VoidLSA information

This clause is expected to be defined in the release 2000 version of the present document.

[…]

5.5 MExE related procedures

MExE is an optional feature. The higher level procedures, and contents and coding of the commands are given in TS 23.057 [30]. Procedures relating to the transmission of commands and responses across the USIM/ME interface are given in this clause. A USIM or ME supporting MExE shall conform to the requirements given in this clause.

5.5.1 MExE ST

Requirement: Service n°41 (MExE) "~~allocated and activated~~available".
Request: The ME performs the reading procedure with $EF_{MExE-ST}$

5.5.2 Operator root public key

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°1 (EF_{ORPK})" available ~~allocated and activated~~".
Request: The ME performs the reading procedure with EF_{ORPK}. The ME shall analyse the data of EF_{ORPK} (clause 4.4.1.4.2) to identify the files containing the certificate instances. If necessary, then the ME performs READ BINARY commands on these files to assemble the complete certificate instance data.

5.5.3 Administrator root public key

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°2 (EF_{ARPK}) " available ~~allocated and activated~~".
Request: The ME performs the reading procedure with $EF_{ARPK.}$ The ME shall analyse the data of EF_{ARPK} (clause 4.4.1.4.3) to identify the file containing the certificate instance. If necessary, then the ME performs READ BINARY commands on this file to assemble the complete certificate instance data.

5.5.4 Third Party root public key(s)

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°3 (EF_{TPRPK}) " available ~~allocated and activated~~".
Request: The ME performs the reading procedure with $EF_{TPRPK.}$ The ME shall analyse the data of EF_{TPRPK} (clause 4.4.1.4.4) to identify the files containing the certificate instances. If necessary, then the ME performs READ BINARY commands on these files to assemble the complete certificate instance data.

5.5.5 Trusted Key/Certificates Data Files

Requirement: Service n°41 (MExE) "available"~~allocated and activated~~.
Request: The ME performs the reading procedure with $EF_{TKCDF.}$ The ME shall analyse the data of EF_{TKCDF} and, if necessary, perform READ BINARY commands on these files

[…]

7.1.1 Command description

The function is used during the procedure for authenticating the USIM to its HE and vice versa. In addition, a cipher key and an integrity key are calculated. For the execution of the command the USIM uses the subscriber authentication key K, which is stored in the USIM.

The function is related to a particular USIM and shall not be executable unless the USIM application has been selected and activated, and the current directory is the USIM ADF or any subdirectory under this ADF and a successful PIN verification procedure has been performed (see clause 5).

The function can be used in two different contexts:

- a 3G security context, when 3G authentication vectors (RAND, XRES, CK, IK, AUTN) are available (i.e. the UE is located in the UTRAN, or in a GSM radio access network which is connected to a 3G or 3G capable VLR/SGSN), or

- a GSM security context, when GSM authentication data are available only (i.e. the UE is located in the GSM radio access network which is connected to a non-3G capable VLR/SGSN).

[…]

~~7.3 Status Conditions Returned by the UICC~~7.3 Status Conditions Returned by the USIM

Status of the card after processing of the command is coded in the status bytes SW1 and SW2. This clause specifies the coding of the status bytes in the following tables, in addition to the ones defined in TS 31.101 [11].

7.3.1 Security management

SW1	SW2	Error description
'98'	'62'	- Authentication error, incorrect MAC
'98'	'64	- Authentication error, GSM security context not supported

[…]

Annex A (informative): EF changes via Data Download or USAT applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by a USAT Application, is advisable. Updating of certain EFs "over the air" such as EF_{ACC} could result in unpredictable behaviour of the UE; 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
’2F00’	Application directory	Caution
’2F05’	Preferred languages	Yes
’2F06’	Access rule reference	Caution
’2FE2’	ICC identification	No
’4F20’	Image data	Yes
‘4F20’	GSM Ciphering key Kc	No
'4FXX'	Image Instance data Files	Yes
'4FXX'	Unique identifier	Yes
'4F22'	Phone book synchronisation counter	Yes
'4F23'	Change counter	Yes
'4F24'	Previous unique identifier	Yes
'4F30'	Phone book reference file	Yes
'4FXX'	Capability configuration parameters 1	Yes
‘4F52’	GPRS Ciphring key KcGPRS	No
'4F6375'	CPBCCH Information	No
'4F64’76	Investigation Scan	Caution
'4FXX'	Additional number alpha string	Yes
'4FXX'	Additional number	Yes
'4FXX'	Second name entry	Yes
'4FXX'	Grouping information alpha string	Yes
'4FXX'	Phone book control	Yes
'4FXX'	E-mail addresses	Yes
'4FXX'	Index administration phone book	Yes
'4FXX'	Extension 1	Yes
'4FXX'	Abbreviated dialling numbers	Yes
'4FXX'	Grouping file	Yes
'6F05'	Language indication	Yes
‘6F06’	Access rule reference (under ADF_{USIM} and $DF_{TELECOM}$)	Caution
'6F07'	IMSI	Caution (Note 1)
'6F08'	Ciphering and integrity keys	No
'6F09'	Ciphering and integrity keys for packet switched domain	No
'6F20'	Ciphering key Kc	No
'6F2C'	De-personalization Control Keys	Caution
'6F31'	HPLMN search period	Caution
'6F32'	Co-operative network list	Caution
'6F37'	ACM maximum value	Yes
'6F38'	USIM service table	Caution
'6F39'	Accumulated call meter	Yes
'6F3B'	Fixed dialling numbers	Yes
'6F3C'	Short messages	Yes
'6F4F'	Extended Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes

Continued….

File identification	Description	Change advised
’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
’6F4B’	Extension 2	Yes
’6F4C’	Extension 3	Yes
’6F4D’	Barred dialling numbers	Yes
’6F4E’	Extension 5	Yes
’6F4F’	Capability configuration parameters 2	Yes
’6F50’	CBMIR	Yes
~~’6F52’~~	~~GPRS Ciphering key KcGPRS~~	~~No~~
’6F54’	SetUp Menu Elements	Yes
‘6F55’	Extension 4	Yes
'6F56'	Enabled services table	Caution
'6F57'	Access point name control list	Yes
'6F58'	Comparison method information	Yes
'6F5B'	Initialisation value for Hyperframe number	Caution
'6F5C'	Maximum value of START	Yes
'6F60'	User controlled PLMN selector with Access Technology	No
'6F61'	Operator controlled PLMN selector with Access Technology	Caution
'6F62'	HPLMN selector with Access Technology	Caution
'6F653'	RPLMN last used Access Technology	Caution
'6F73'	Packet switched location information	Caution
'6F78'	Access control class	Caution
'6F7B'	Forbidden PLMNs	Caution
‘6F7E’	Location information	No (Note 1)
'6F80'	Incoming call information	Yes
'6F81'	Outgoing call information	Yes
'6F82'	Incoming call timer	Yes
'6F83'	Outgoing call timer	Yes
'6FAD'	Administrative data	Caution
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
~~’6FC2’~~	~~Group identity~~	~~No~~
'6FC3'	Key for hidden phone book entries	No
'6FC4'	Network Parameters	No
'6FC5'	PLMN Network Name	Yes
'6FC6'	Operator Network 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 Connectivity Parameters	Yes
‘6FD1’	MMS User Preferences	Yes

NOTE1: If EF_{IMSI} is changed, the UICC should issue REFRESH as defined in TS 31.111 and update EF_{LOCI} accordingly.

Annex E (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
’2F00’	Application directory	Card issuer/operator dependant
’2F05’	Preferred languages	'FF…FF'
'2F06'	Access rule reference	Card issuer/operator dependant
'2FE2'	ICC identification	operator dependant
'4F20'	Image data	'00FF...FF'
‘4F20’	GSM Ciphering key Kc	'FF...FF07'
'4FXX'	Image instance data files	'FF…FF'
'4FXX'	Unique identifier	'0000'
'4F22'	Phone book synchronisation counter	'00000000'
'4F23'	Change counter	'0000'
'4F24'	Previous unique identifier	'0000'
'4F30'	Phone book reference file	Operator dependant
'4FXX'	Capability configuration parameters 1	'FF…FF'
‘4F52’	GPRS Ciphring key KcGPRS	'FF...FF07'
'4F63'	CPBCCH Information	'FF..FF'
'4F64'	Investigation PLMN scan	'00'
'4FXX'	E-mail addresses	'FF…FF'
'4FXX'	Additional number alpha string	'FF…FF'
'4FXX'	Second name entry	'FF…FF'
'4FXX'	Abbreviated dialling numbers	'FF...FF'
'4FXX'	Grouping file	'00…00'
'4FXX'	Grouping information alpha string	'FF…FF'
'4FXX'	Phone book control	'0000'
'4FXX'	Index administration phone book	'FF…FF'
'4FXX'	Additional number	'FF…FF'
'4FXX'	Extension 1	'00FF...FF'
'6F05'	Language indication	'FF…FF'
'6F06'	Access rule reference (under ADF_{USIM} and $DF_{TELECOM}$)	Card issuer/operator dependant
'6F07'	IMSI	Operator dependant
'6F08'	Ciphering and integrity keys	'07FF…FF'
'6F09'	Ciphering and integrity keys for packet switched domain	'07FF…FF'
~~'6F20'~~	~~Ciphering key Kc~~	~~'FF...FF07'~~
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	HPLMN search period	'FF'
'6F32'	Co-operative network list	'FF…FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	USIM service table	Operator dependant
'6F39'	Accumulated call meter	'000000'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3E'	Group identifier level 1	Operator dependant
'6F3F'	Group identifier level 2	Operator dependant
'6F40'	MSISDN storage	'FF...FF'
'6F41'	PUCT	'FFFFFF0000'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	Operator dependant
'6F47'	Short message status reports	'00FF…FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F4B'	Extension 2	'00FF...FF'
'6F4C'	Extension 3	'00FF...FF'

Continued....

File Identification	Description	Value
’6F4D’	Barred Dialling Numbers	’FF...FF’
’6F4E’	Extension 5	’00FF...FF’
’6F4F’	Capability configuration parameters 2	’FF...FF’
’6F50’	CBMIR	’FF...FF’
~~’6F52’~~	~~GPRS Ciphering key KcGPRS~~	~~’FF...FF07’~~
’6F54’	SetUp Menu Elements	Operator dependant
’6F55’	Extension 4	’FF...FF’
’6F56’	Enabled services table	Operator dependant
’6F57’	Access point name control list	’00FF…FF’
’6F58’	Comparison method information	’FF…FF’
’6F5B’	Initialisation value for Hyperframe number	’F0 00 00 F0 00 00’
’6F5C’	Maximum value of START	Operator dependant
’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’
’6F65’	RPLMN last used Access Technology	’0000’
’6F73’	Packet switched location information	’FFFFFFFF FFFFFF xxxxxx 0000 FF 01’ (see note 2)
’6F78’	Access control class	Operator dependant
’6F7B’	Forbidden PLMNs	’FF...FF’
’6F7E	Location information	’FFFFFFFF xxxxxx 0000 FF 01’ (see note 2)
’6F80’	Incoming call information	’FF…FF 000000 00 01FFFF’
’6F81’	Outgoing call information	’FF…FF 000000 01FFFF’
’6F82’	Incoming call timer	’000000’
’6F83’	Outgoing call timer	’000000’
’6FAD’	Administrative data	Operator dependant
’6FB5’	EMLPP	Operator dependant
’6FB6’	AaeM	’00’
’6FB7’	Emergency call codes	Operator dependant
~~’6FC2’~~	~~Group identity~~	~~’FFFFFFFF’~~
’6FC3’	Key for hidden phone book entries	’FF…FF’
’6FC4’	Network Parameters	’FF…FF’
’6FC5’	PLMN Network Name	Operator dependant
’6FC6’	Operator Network 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	
‘6FCE’	MMS Notification	’00 00 00 FF…FF’
‘6FCF’	Extension 8	’FF...FF’
‘6FD0’	MMS Connectivity Parameters	‘FF…FF’
‘6F61’	MMS User Preferences	‘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 24.008 [9].

Annex F (informative): Examples of coding of LSA Descriptor files for SoLSA

~~This annex is expected to be defined in a later release of the present document.~~Void.

3GPP T3 Meeting #23
Espoo, Finland, 21-24 May 2002

Tdoc T3-020337

CR-Form-v3

CHANGE REQUEST

⌘ **31.102 CR 109** ⌘ rev ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘	Essential clarifications and corrections
Source:	⌘	T3
Work item code:	⌘	UICC1
Date:	⌘	21/05/02
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	Missing definition. Solsa related information is not defined in 3G. Some SIM terminology is not valid for the USIM. Files ID and other data missing or incorrect in annexes A and E.
Summary of change:	⌘	Introduction of definition. Removal of Solsa related information. Replacement of GSM terminology not used in the USIM by the USIM terminology. Update of annexes A and E.
Consequences if not approved:	⌘	Inconsistency of the specification

Clauses affected:	⌘	4, 4.2.1, 4.2.21, 4.2.41, 4.3, 4.4, 5, 5.1.1.1, 5.1.4, 5.2.1, 5.2.8, 5.5, 7.1.1, 7.3, 7.3.1, Annexes A, E, F
Other specs Affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] 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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

4 Contents of the Files

This clause specifies the EFs for the 3G session defining access conditions, data items and coding. A data item is a part of an EF which represents a complete logical entity, e.g. the alpha tag in an EF_{ADN} record.

EFs or data items having an unassigned value, or, which during the 3G session, are cleared by the ME, shall have their bytes set to 'FF'. After the administrative phase all data items shall have a defined value or have their bytes set to 'FF'. If a data item is 'deleted' during a 3G session by the allocation of a value specified in another 3GPP TS, then this value shall be used and the data item is not unassigned. For example, for a deleted LAI in EF_{LOCI} the last byte takes the value 'FE' (TS 24.008 [9] refers).

EFs are mandatory (M), ~~or~~ optional (O), or conditional (C). A conditional file is mandatory if a specific requirement is fulfilled. The file size of an optional EF may be zero. All implemented EFs with a file size greater than zero shall contain all mandatory data items. Optional data items may either be filled with 'F', or, if located at the end of an EF, need not exist.

When the coding is according to ITU-T Recommendation T.50 [23], bit 8 of every byte shall be set to 0.

For an overview containing all files see figures 4.1 and 4.2.

[…]

4.2.1 EF_{LI} (Language Indication)

This EF contains the codes for one or more languages. This information, determined by the user/operator, defines the preferred languages of the user in order of priority. This information may be used by the ME for MMI purposes. This information may also be used for the screening of Cell Broadcast messages in a preferred language, as follows.

When the CB Message Identifier capability is available, the ME selects only those CB messages the language of which corresponds to an entry in this EF or in $EF_{PL,}$ whichever of these EFs is used (see clause 5.1.1). The CB message language is defined by the Data Coding Scheme (DCS: see TS 23.038 [5]) received with the CB message. The ME shall be responsible for translating the language coding indicated in the Data Coding Scheme for the Cell Broadcast Service (as defined in TS 23.038 [5]) to the language coding as defined in ISO 639 [19] if it is necessary to check the language coding in EF_{PL}.

Identifier: '6F 05'	Structure: transparent	Optional
SFI: '02'		
File size: 2n bytes	Update activity: low	
Access Conditions: READ ALW UPDATE PIN DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to 2	1st language code (highest priority).	M	2 bytes
3 to 4	2nd language code	O	2 bytes
2n-1 to 2n	Nth~~th~~ language code (lowest priority).	O	2 bytes

Coding:

- each language code is a pair of alpha-numeric characters, defined in ISO 639 [19]. Each alpha-numeric character shall be coded on one byte using the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0.

Unused language entries shall be set to 'FF FF'.

[…]

4.2.21 EF_{ECC} (Emergency Call Codes)

This EF contains emergency call codes.

Identifier: '6FB7'	Structure: linear fixed	Mandatory
SFI: '01'		
Record size: X+4 bytes	Update activity: low	
Access Conditions: READ ALW UPDATE ADM DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to 3	Emergency Call Code	M	3 bytes
4 to X+3	Emergency Call Code Alpha Identifier	O	X bytes
X+4	Emergency Service Category	M	1 byte

- Emergency Call Code.
  Contents:
  - Emergency Call Code.

  Coding:
  - the emergency call code is of a variable length with a maximum length of 6 digits. Each emergency call code is coded on three bytes, with each digit within the code being coded on four bits as shown below. If a code of less than 6 digits is chosen, then the unused nibbles shall be set to 'F'. ~~If EF_{ECC} does not contain any valid number, the UE shall use the emergency numbers it stores for use in setting up an emergency call without a USIM.~~

[…]

4.2.41 Void~~EF$_{GMSI}$ (Group Identity)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

[…]

4.3 DFs at the USIM ADF (Application DF) Level

DFs may be present as child directories of USIM ADF. The following DFs are defined:

- $DF_{PHONEBOOK}$ '5F3A'.
- DF_{GSM} '5F3B'.
- DF_{MExE} '5F3C'.

(DF for application specific phonebook. This DF has the same structure as the $DF_{PHONEBOOK}$ under $DF_{TELECOM}$).

'5F70' is reserved for DF_{SoLSA} ~~and is expected to be defined in the release 2000 version of the present document~~.

4.4 Contents of DFs at the USIM ADF (Application DF) level

4.4.1 Contents of files at the DF SoLSA level

~~This clause is expected to be defined in the release 2000 version of the present document.~~Void.

~~4.4.1.1 EF_{SAI} (SoLSA Access Indicator)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

~~4.4.1.2 EF_{SLL} (SoLSA LSA List)~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

~~4.4.1.3 LSA Descriptor files~~

~~This clause is expected to be defined in the release 2000 version of the present document.~~

[…]

5 Application protocol

When involved in ~~3G~~ administrative management operations, the USIM interfaces with appropriate equipment. These operations are outside the scope of the present document.

When involved in ~~3G~~ network operations the USIM interfaces with an ME with which messages are exchanged. A message can be a command or a response.

- A USIM Application command/response pair is a sequence consisting of a command and the associated response.
- A USIM Application procedure consists of one or more USIM Application 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 realise the procedure, leads to the abortion of the procedure itself.
- A ~~3G session of the~~ USIM session ~~in the 3G application~~ is the interval of time starting at the completion of the USIM initialisation procedure and ending either with the start of the 3G session termination procedure, or at the first instant the link between the UICC and the ME is interrupted.

During the ~~3G~~ network operation phase, the ME plays the role of the master and the USIM plays the role of the slave.

The USIM shall execute all ~~3G and USIM Application Toolkit~~ commands ~~or procedures~~ defined in TS 31.101 [11], if applicable for the USIM (see section 8.3 for optional commands), including USAT commands, 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 AUTHENTICATE is delayed in such a way which would result in the network denying or suspending service to the user.

The procedures listed in clause "USIM management procedures" are required for execution of the procedures in the subsequent clauses "USIM security related procedures" and "Subscription related procedures". The procedures listed in clauses "USIM security related procedures" are mandatory. The procedures listed in "Subscription related procedures" are only executable if the associated services, which are optional, are provided in the USIM. However, if the procedures are implemented, it shall be in accordance with clause "Subscription related procedures".

If a procedure is related to a specific service indicated in the USIM Service Table, it shall only be executed if the corresponding bits denote this service as "service available" (see clause "EF_{UST}"). In all other cases the procedure shall not start.

[…]

5.1.1.1 USIM application selection

After UICC activation (see TS 31.101 [11]), the ME selects a USIM application. If no EF_{DIR} file is found or no USIM applications are listed in the EF_{DIR} file, the ME then tries to select the GSM application as specified in TS 51.011 [18].

Note: there may be cards that need to be reset before selecting the GSM application.

After a successful USIM application selection, the selected USIM (AID) is stored on the UICC. This application is referred to as the last selected application. The last selected application shall be available on the UICC after a deactivation followed by an activation of the UICC.

If a USIM application is selected using partial DF name, the partial DF name supplied in the command shall uniquely identify a USIM application. Furthermore if a USIM application is selected using a partial DF name as specified in TS 31.101 [11] indicating in the SELECT command the last occurrence the UICC shall select the USIM application stored as the last application. If, in the SELECT command, the options first, next/previous are indicated, they have no meaning if an application has not been previously selected in the same session and shall return an appropriate error code.

[…]

5.1.4 Emergency call codes

Request: The ME performs the reading procedure with EF_{ECC}. If EF_{ECC} does not contain any valid number, the ME shall use the emergency numbers it stores for use in setting up an emergency call without a USIM.

Update: The ME performs the updating procedure with EF_{ECC}.

NOTE: The update procedure is only applicable when access conditions of ADM for update is set to ALW, PIN or PIN2.

[…]

5.2.1 Authentication algorithms computation

The ME selects a USIM application and uses the AUTHENTICATE command (see 7.1.1). The response is sent to the ME (in case of the T=0 protocol when requested by a subsequent GET RESPONSE command).

After a sSuccessful AUTHENTICATE command, the ME shall perform cCipher and iIntegrity key update procedure.

[…]

5.2.8 VoidLSA information

This clause is expected to be defined in the release 2000 version of the present document.

[…]

5.5 MExE related procedures

MExE is an optional feature. The higher level procedures, and contents and coding of the commands are given in TS 23.057 [30]. Procedures relating to the transmission of commands and responses across the USIM/ME interface are given in this clause. A USIM or ME supporting MExE shall conform to the requirements given in this clause.

5.5.1 MExE ST

Requirement: Service n°41 (MExE) "~~allocated and activated~~available".
Request: The ME performs the reading procedure with $EF_{MExE-ST}$

5.5.2 Operator root public key

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°1 (EF_{ORPK})" available ~~allocated and activated~~".
Request: The ME performs the reading procedure with EF_{ORPK}. The ME shall analyse the data of EF_{ORPK} (clause 4.4.1.4.2) to identify the files containing the certificate instances. If necessary, then the ME performs READ BINARY commands on these files to assemble the complete certificate instance data.

5.5.3 Administrator root public key

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°2 (EF_{ARPK}) " available ~~allocated and activated~~".
Request: The ME performs the reading procedure with $EF_{ARPK.}$ The ME shall analyse the data of EF_{ARPK} (clause 4.4.1.4.3) to identify the file containing the certificate instance. If necessary, then the ME performs READ BINARY commands on this file to assemble the complete certificate instance data.

5.5.4 Third Party root public key(s)

Requirement: Service n°41 (MExE) " available ~~allocated and activated~~" and MExE ST service n°3 (EF_{TPRPK}) " available ~~allocated and activated~~".
Request: The ME performs the reading procedure with $EF_{TPRPK.}$ The ME shall analyse the data of EF_{TPRPK} (clause 4.4.1.4.4) to identify the files containing the certificate instances. If necessary, then the ME performs READ BINARY commands on these files to assemble the complete certificate instance data.

5.5.5 Trusted Key/Certificates Data Files

Requirement: Service n°41 (MExE) "available"~~allocated and activated~~.
Request: The ME performs the reading procedure with $EF_{TKCDF.}$ The ME shall analyse the data of EF_{TKCDF} and, if necessary, perform READ BINARY commands on these files

[…]

7.1.1 Command description

The function is used during the procedure for authenticating the USIM to its HE and vice versa. In addition, a cipher key and an integrity key are calculated. For the execution of the command the USIM uses the subscriber authentication key K, which is stored in the USIM.

The function is related to a particular USIM and shall not be executable unless the USIM application has been selected and activated, and the current directory is the USIM ADF or any subdirectory under this ADF and a successful PIN verification procedure has been performed (see clause 5).

The function can be used in two different contexts:

- a 3G security context, when 3G authentication vectors (RAND, XRES, CK, IK, AUTN) are available (i.e. the UE is located in the UTRAN, or in a GSM radio access network which is connected to a 3G or 3G capable VLR/SGSN), or

- a GSM security context, when GSM authentication data are available only (i.e. the UE is located in the GSM radio access network which is connected to a non-3G capable VLR/SGSN).

[…]

~~7.3 Status Conditions Returned by the UICC~~7.3 Status Conditions Returned by the USIM

Status of the card after processing of the command is coded in the status bytes SW1 and SW2. This clause specifies the coding of the status bytes in the following tables, in addition to the ones defined in TS 31.101 [11].

7.3.1 Security management

SW1	SW2	Error description
'98'	'62'	- Authentication error, incorrect MAC
'98'	'64	- Authentication error, GSM security context not supported

[…]

Annex A (informative): EF changes via Data Download or USAT applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by a USAT Application, is advisable. Updating of certain EFs "over the air" such as EF_{ACC} could result in unpredictable behaviour of the UE; 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
’2F00’	Application directory	Caution
’2F05’	Preferred languages	Yes
’2F06’	Access rule reference	Caution
’2FE2’	ICC identification	No
’4F20’	Image data	Yes
‘4F20’	GSM Ciphering key Kc	No
'4FXX'	Image Instance data Files	Yes
'4FXX'	Unique identifier	Yes
'4F22'	Phone book synchronisation counter	Yes
'4F23'	Change counter	Yes
'4F24'	Previous unique identifier	Yes
'4F30'	Phone book reference file	Yes
'4FXX'	Capability configuration parameters 1	Yes
‘4F52’	GPRS Ciphring key KcGPRS	No
'4F6375'	CPBCCH Information	No
'4F64’76	Investigation Scan	Caution
'4FXX'	Additional number alpha string	Yes
'4FXX'	Additional number	Yes
'4FXX'	Second name entry	Yes
'4FXX'	Grouping information alpha string	Yes
'4FXX'	Phone book control	Yes
'4FXX'	E-mail addresses	Yes
'4FXX'	Index administration phone book	Yes
'4FXX'	Extension 1	Yes
'4FXX'	Abbreviated dialling numbers	Yes
'4FXX'	Grouping file	Yes
'6F05'	Language indication	Yes
‘6F06’	Access rule reference (under ADF_{USIM} and $DF_{TELECOM}$)	Caution
'6F07'	IMSI	Caution (Note 1)
'6F08'	Ciphering and integrity keys	No
'6F09'	Ciphering and integrity keys for packet switched domain	No
'6F20'	Ciphering key Kc	No
'6F2C'	De-personalization Control Keys	Caution
'6F31'	HPLMN search period	Caution
'6F32'	Co-operative network list	Caution
'6F37'	ACM maximum value	Yes
'6F38'	USIM service table	Caution
'6F39'	Accumulated call meter	Yes
'6F3B'	Fixed dialling numbers	Yes
'6F3C'	Short messages	Yes
'6F4F'	Extended Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes

Continued….

File identification	Description	Change advised
’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
’6F4B’	Extension 2	Yes
’6F4C’	Extension 3	Yes
’6F4D’	Barred dialling numbers	Yes
’6F4E’	Extension 5	Yes
’6F4F’	Capability configuration parameters 2	Yes
’6F50’	CBMIR	Yes
~~’6F52’~~	~~GPRS Ciphering key KcGPRS~~	~~No~~
’6F54’	SetUp Menu Elements	Yes
‘6F55’	Extension 4	Yes
'6F56'	Enabled services table	Caution
'6F57'	Access point name control list	Yes
'6F58'	Comparison method information	Yes
'6F5B'	Initialisation value for Hyperframe number	Caution
'6F5C'	Maximum value of START	Yes
'6F60'	User controlled PLMN selector with Access Technology	No
'6F61'	Operator controlled PLMN selector with Access Technology	Caution
'6F62'	HPLMN selector with Access Technology	Caution
'6F653'	RPLMN last used Access Technology	Caution
'6F73'	Packet switched location information	Caution
'6F78'	Access control class	Caution
'6F7B'	Forbidden PLMNs	Caution
‘6F7E’	Location information	No (Note 1)
'6F80'	Incoming call information	Yes
'6F81'	Outgoing call information	Yes
'6F82'	Incoming call timer	Yes
'6F83'	Outgoing call timer	Yes
'6FAD'	Administrative data	Caution
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
~~’6FC2’~~	~~Group identity~~	~~No~~
'6FC3'	Key for hidden phone book entries	No
'6FC4'	Network Parameters	No
'6FC5'	PLMN Network Name	Yes
'6FC6'	Operator Network 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 Connectivity Parameters	Yes
‘6FD1’	MMS User Preferences	Yes

NOTE1: If EF_{IMSI} is changed, the UICC should issue REFRESH as defined in TS 31.111 and update EF_{LOCI} accordingly.

Annex E (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
’2F00’	Application directory	Card issuer/operator dependant
’2F05’	Preferred languages	'FF…FF'
'2F06'	Access rule reference	Card issuer/operator dependant
'2FE2'	ICC identification	operator dependant
'4F20'	Image data	'00FF...FF'
‘4F20’	GSM Ciphering key Kc	'FF...FF07'
'4FXX'	Image instance data files	'FF…FF'
'4FXX'	Unique identifier	'0000'
'4F22'	Phone book synchronisation counter	'00000000'
'4F23'	Change counter	'0000'
'4F24'	Previous unique identifier	'0000'
'4F30'	Phone book reference file	Operator dependant
'4FXX'	Capability configuration parameters 1	'FF…FF'
‘4F52’	GPRS Ciphring key KcGPRS	'FF...FF07'
'4F63'	CPBCCH Information	'FF..FF'
'4F64'	Investigation PLMN scan	'00'
'4FXX'	E-mail addresses	'FF…FF'
'4FXX'	Additional number alpha string	'FF…FF'
'4FXX'	Second name entry	'FF…FF'
'4FXX'	Abbreviated dialling numbers	'FF...FF'
'4FXX'	Grouping file	'00…00'
'4FXX'	Grouping information alpha string	'FF…FF'
'4FXX'	Phone book control	'0000'
'4FXX'	Index administration phone book	'FF…FF'
'4FXX'	Additional number	'FF…FF'
'4FXX'	Extension 1	'00FF...FF'
'6F05'	Language indication	'FF…FF'
'6F06'	Access rule reference (under ADF_{USIM} and $DF_{TELECOM}$)	Card issuer/operator dependant
'6F07'	IMSI	Operator dependant
'6F08'	Ciphering and integrity keys	'07FF…FF'
'6F09'	Ciphering and integrity keys for packet switched domain	'07FF…FF'
~~'6F20'~~	~~Ciphering key Kc~~	~~'FF...FF07'~~
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	HPLMN search period	'FF'
'6F32'	Co-operative network list	'FF…FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	USIM service table	Operator dependant
'6F39'	Accumulated call meter	'000000'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3E'	Group identifier level 1	Operator dependant
'6F3F'	Group identifier level 2	Operator dependant
'6F40'	MSISDN storage	'FF...FF'
'6F41'	PUCT	'FFFFFF0000'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	Operator dependant
'6F47'	Short message status reports	'00FF…FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F4B'	Extension 2	'00FF...FF'
'6F4C'	Extension 3	'00FF...FF'

Continued....

File Identification	Description	Value
’6F4D’	Barred Dialling Numbers	’FF...FF’
’6F4E’	Extension 5	’00FF...FF’
’6F4F’	Capability configuration parameters 2	’FF...FF’
’6F50’	CBMIR	’FF...FF’
~~’6F52’~~	~~GPRS Ciphering key KcGPRS~~	~~’FF...FF07’~~
’6F54’	SetUp Menu Elements	Operator dependant
’6F55’	Extension 4	’FF...FF’
’6F56’	Enabled services table	Operator dependant
’6F57’	Access point name control list	’00FF…FF’
’6F58’	Comparison method information	’FF…FF’
’6F5B’	Initialisation value for Hyperframe number	’F0 00 00 F0 00 00’
’6F5C’	Maximum value of START	Operator dependant
’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’
’6F65’	RPLMN last used Access Technology	’0000’
’6F73’	Packet switched location information	’FFFFFFFF FFFFFF xxxxxx 0000 FF 01’ (see note 2)
’6F78’	Access control class	Operator dependant
’6F7B’	Forbidden PLMNs	’FF...FF’
’6F7E	Location information	’FFFFFFFF xxxxxx 0000 FF 01’ (see note 2)
’6F80’	Incoming call information	’FF…FF 000000 00 01FFFF’
’6F81’	Outgoing call information	’FF…FF 000000 01FFFF’
’6F82’	Incoming call timer	’000000’
’6F83’	Outgoing call timer	’000000’
’6FAD’	Administrative data	Operator dependant
’6FB5’	EMLPP	Operator dependant
’6FB6’	AaeM	’00’
’6FB7’	Emergency call codes	Operator dependant
~~’6FC2’~~	~~Group identity~~	~~’FFFFFFFF’~~
’6FC3’	Key for hidden phone book entries	’FF…FF’
’6FC4’	Network Parameters	’FF…FF’
’6FC5’	PLMN Network Name	Operator dependant
’6FC6’	Operator Network 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	
‘6FCE’	MMS Notification	’00 00 00 FF…FF’
‘6FCF’	Extension 8	’FF...FF’
‘6FD0’	MMS Connectivity Parameters	‘FF…FF’
‘6F61’	MMS User Preferences	‘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 24.008 [9].

Annex F (informative): Examples of coding of LSA Descriptor files for SoLSA

~~This annex is expected to be defined in a later release of the present document.~~Void.

3GPP T3 (USIM) Meeting #23
Espoo, Finland, 21-24 May 2002

T3-020422

CR-Form-v3

CHANGE REQUEST

⌘ **31.102** **CR** **110** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘	Handling of different sets of connectivity parameters and automatic bearer selection
Source:	⌘	T3
Work item code:	⌘	UICC1 ***Date:*** ⌘ 24-05-2002
Category:	⌘	**F** ***Release:*** ⌘ REL-5

Use one of the following categories:	*Use one of the following releases:*	
F *(essential correction)*	*2*	*(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96*	*(Release 1996)*
B *(Addition of feature),*	*R97*	*(Release 1997)*
C *(Functional modification of feature)*	*R98*	*(Release 1998)*
D *(Editorial modification)*	*R99*	*(Release 1999)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*REL-4*	*(Release 4)*
	REL-5	*(Release 5)*

Reason for change:	⌘	3GPP SA1/SA approved two new requirements w.r.t automatic bearer selection for MMS and MMS connectivity parameters for release 5 of the stage 1 specification of MMS (TS 22.140).
Summary of change:	⌘	Mechanisms for: - An order of precedence for Interface to core network and bearer information, which allows automatic bearer selection. - Different sets of MMS Connectivity Parameters, from which the preset set is only configurable by the issuer of the USIM and the other sets by the user.
Consequences if not approved:	⌘	- Bearer selection can only be done manual. - The user must configure manually MMS service each time he changes terminal or network operator. - SA1 requirements are not met.

Clauses affected:	⌘	4.2.8, 4.2.69, 4.7, 5.3.30, Annex A, Annex D, Annex E
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] 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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

…

4.2.8 EF_{UST} (USIM Service Table)

This EF indicates which services are available. If a service is not indicated as available in the USIM, the ME shall not select this service.

Identifier: '6F38'	Structure: transparent	Mandatory
SFI: '04'		
File size: X bytes, X >= 1	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Services n°1 to n°8	M	1 byte
2	Services n°9 to n°16	O	1 byte
3	Services n°17 to n°24	O	1 byte
4	Services n°25 to n°32	O	1 byte
etc.			
X	Services n°(8X-7) to n°(8X)	O	1 byte

-Services

Contents:		
	Service n°1:	Local Phone Book
	Service n°2:	Fixed Dialling Numbers (FDN)
	Service n°3:	Extension 2
	Service n°4:	Service Dialling Numbers (SDN)
	Service n°5:	Extension3
	Service n°6:	Barred Dialling Numbers (BDN)
	Service n°7:	Extension4
	Service n°8:	Outgoing Call Information (OCI and OCT)
	Service n°9:	Incoming Call Information (ICI and ICT)
	Service n°10:	Short Message Storage (SMS)
	Service n°11:	Short Message Status Reports (SMSR)
	Service n°12:	Short Message Service Parameters (SMSP)
	Service n°13:	Advice of Charge (AoC)
	Service n°14:	Capability Configuration Parameters (CCP)
	Service n°15:	Cell Broadcast Message Identifier
	Service n°16:	Cell Broadcast Message Identifier Ranges
	Service n°17:	Group Identifier Level 1
	Service n°18:	Group Identifier Level 2
	Service n°19:	Service Provider Name
	Service n°20:	User controlled PLMN selector with Access Technology
	Service n°21:	MSISDN
	Service n°22:	Image (IMG)
	Service n°23:	Not used (reserved for SoLSA)
	Service n°24:	Enhanced Multi-Level Precedence and Pre-emption Service
	Service n°25:	Automatic Answer for eMLPP
	Service n°26:	RFU
	Service n°27:	GSM Access
	Service n°28:	Data download via SMS-PP
	Service n°29:	Data download via SMS-CB
	Service n°30:	Call Control by USIM
	Service n°31:	MO-SMS Control by USIM
	Service n°32:	RUN AT COMMAND command
	Service n°33:	shall be set to '1'
	Service n°34:	Enabled Services Table
	Service n°35:	APN Control List (ACL)
	Service n°36:	Depersonalisation Control Keys
	Service n°37:	Co-operative Network List
	Service n°38:	GSM security context
	Service n°39:	CPBCCH Information
	Service n°40:	Investigation Scan
	Service n°41:	MExE
	Service n°42:	Operator controlled PLMN selector with Access Technology
	Service n°43:	HPLMN selector with Access Technology
	Service n°44:	Extension 5
	Service n°45:	PLMN Network Name
	Service n°46:	Operator PLMN List
	Service n°47:	Mailbox Dialling Numbers
	Service n°48:	Message Waiting Indication Status
	Service n°49:	Call Forwarding Indication Status
	Service n°50:	RPLMN Last used Access Technology
	Service n°51:	Service Provider Display Information
	Service n°52	Multimedia Messaging Service (MMS)
	Service n°53	Extension 8
	Service n°54	Call control on GPRS by USIM
	Service n°xx	MMS User Connectivity Parameters

The EF shall contain at least one byte. 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 the 3GPP.
Coding:

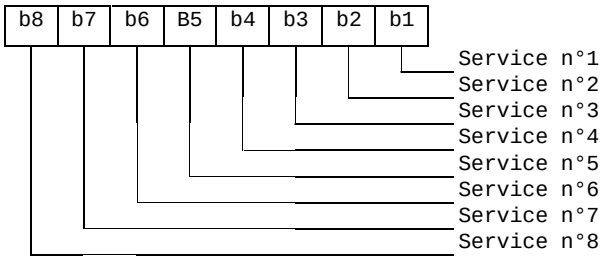
1 bit is used to code each service:

bit = 1: service available;
bit = 0: service not available.

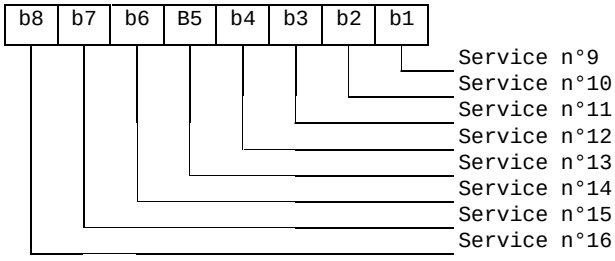
- Service available means that the USIM has the capability to support the service and that the service is available for the user of the USIM unless the service is identified as "disabled" in EF_{EST}.

Service not available means that the service shall not be used by the USIM user, even if the USIM has the capability to support the service.

First byte:



Second byte:



…

4.2.69 EF_{MMSICP} (MMS Issuer Connectivity Parameters)

If service n°52 is "available", 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 order of the bearer information TLV objects in the MMS Connectivity TLV object defines the priority of the bearers, with the first TLV object having the highest priority.

Identifier: '6FD0'	Structure: Transparent	Optional
File Size: X bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM~~/PIN2 (fixed during administrative management)~~
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	MMS Connectivity Parameters TLV objects	M	X 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 Tag	'82'
GatewayTag	'83'

- MMS Connectivity Parameters contents

Description	Value	M/O	Length (bytes)
MMS Connectivity Parameters Tag	~~'AX'~~'AB'	M	1
Length	Note 1	M	Note 2
MMS Implementation Tag	'80'	M	1
Length	1	M	~~Note 2~~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 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 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 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 [35]			

- MMS Implementation Tag '80'
  See section 4.2.67 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 [38].

- Interface to Core Network and Bearer Tag '82'
  Contents:
  The Interface to Core Network and Bearer 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 [38].

- 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 [38].

Unused bytes shall be set to 'FF'.

4.2.xx EF$_{MMSUCP}$ (MMS User Connectivity Parameters)

If service n°52 and n°xx are "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the user, which can be used by the ME for MMS network connection. The order of the bearer information TLV objects in the MMS Connectivity TLV object defines the priority of the bearers, with the first TLV object having the highest priority.

Identifier: '6FXX'	Structure: Transparent	Optional
File Size: X bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN/PIN2 (fixed during administrative management)
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	MMS Connectivity Parameters TLV objects	O	X bytes

For the contents and coding see 4.2.69

...

4.7 Files of USIM

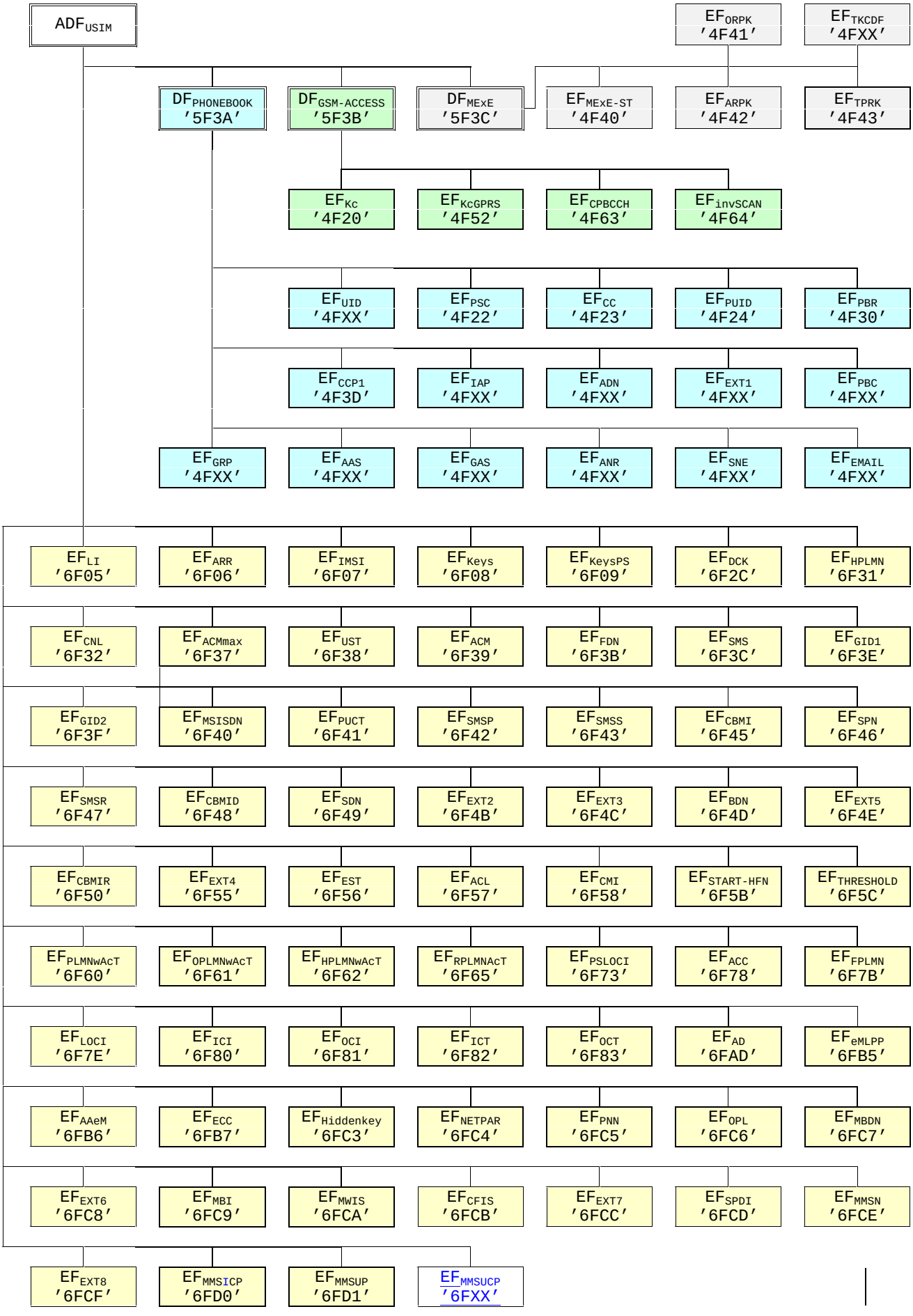

ADF USIM
EF ORPK '4F41'
EF TKCDF '4FXX'
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF Kc '4F20'
EF KcGPRS '4F52'
EF CPBCCH '4F63'
EF invSCAN '4F64'
EF UID '4FXX'
EF PSC '4F22'
EF CC '4F23'
EF PUID '4F24'
EF PBR '4F30'
EF CCP1 '4F3D'
EF IAP '4FXX'
EF ADN '4FXX'
EF EXT1 '4FXX'
EF PBC '4FXX'
EF GRP '4FXX'
EF AAS '4FXX'
EF GAS '4FXX'
EF ANR '4FXX'
EF SNE '4FXX'
EF EMAIL '4FXX'
EF LI '6F05'
EF ARR '6F06'
EF IMSI '6F07'
EF Keys '6F08'
EF KeysPS '6F09'
EF DCK '6F2C'
EF HPLMN '6F31'
EF CNL '6F32'
EF ACMmax '6F37'
EF UST '6F38'
EF ACM '6F39'
EF FDN '6F3B'
EF SMS '6F3C'
EF GID1 '6F3E'
EF GID2 '6F3F'
EF MSISDN '6F40'
EF PUCT '6F41'
EF SMSP '6F42'
EF SMSS '6F43'
EF CBMI '6F45'
EF SPN '6F46'
EF SMSR '6F47'
EF CBMID '6F48'
EF SDN '6F49'
EF EXT2 '6F4B'
EF EXT3 '6F4C'
EF BDN '6F4D'
EF EXT5 '6F4E'
EF CBMIR '6F50'
EF EXT4 '6F55'
EF EST '6F56'
EF ACL '6F57'
EF CMI '6F58'
EF START-HFN '6F5B'
EF THRESHOLD '6F5C'
EF PLMNwAcT '6F60'
EF OPLMNwAcT '6F61'
EF HPLMNwAcT '6F62'
EF RPLMNAcT '6F65'
EF PSLOCI '6F73'
EF ACC '6F78'
EF FPLMN '6F7B'
EF LOCI '6F7E'
EF ICI '6F80'
EF OCI '6F81'
EF ICT '6F82'
EF OCT '6F83'
EF AD '6FAD'
EF eMLPP '6FB5'
EF AAeM '6FB6'
EF ECC '6FB7'
EF Hiddenkey '6FC3'
EF NETPAR '6FC4'
EF PNN '6FC5'
EF OPL '6FC6'
EF MBDN '6FC7'
EF EXT6 '6FC8'
EF MBI '6FC9'
EF MWIS '6FCA'
EF CFIS '6FCB'
EF EXT7 '6FCC'
EF SPDI '6FCD'
EF MMSN '6FCE'
EF EXT8 '6FCF'
EF MMSICP '6FD0'
EF MMSUP '6FD1'
EF MMSUCP '6FXX'

Figure 4.2: File identifiers and directory structures of USIM

...

5.3.30 MMS Issuer Connectivity Parameters

- Requirement: Service n°52 "available".
- Request: the ME performs the reading procedure with EF_{MMSICP}.
- Update: The ME performs the updating procedure with EF_{MMSICP}.

5.3.XX MMS User Connectivity Parameters

- Requirement: Service n°52 and n°xx "available".
- Request: the ME performs the reading procedure with EF_{MMSUCP}.
- Update: The ME performs the updating procedure with EF_{MMSUCP}.

...

Annex A (informative): EF changes via Data Download or USAT applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by a USAT Application, is advisable. Updating of certain EFs "over the air" such as EFACC could result in unpredictable behaviour of the UE; 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
’2F00’	Application directory	
’2F05’	Preferred languages	Yes
’2F06’	Access rule reference	
’2FE2’	ICC identification	No
’4F20’	Image data	Yes
’4FXX’	Image Instance data Files	Yes
’4FXX’	Unique identifier	Yes
’4F22’	Phone book synchronisation counter	Yes
’4F23’	Change counter	Yes
’4F24’	Previous unique identifier	Yes
’4F30’	Phone book reference file	Yes
’4FXX’	Capability configuration parameters 1	Yes
’4F75’	CPBCCH Information	No
’4F76	Investigation Scan	Caution
’4FXX’	Additional number alpha string	Yes
’4FXX’	Additional number	Yes
’4FXX’	Second name entry	Yes
’4FXX’	Grouping information alpha string	Yes
’4FXX’	Phone book control	Yes
’4FXX’	E-mail addresses	Yes
’4FXX’	Index administration phone book	Yes
’4FXX’	Extension 1	Yes
’4FXX’	Abbreviated dialling numbers	Yes
’4FXX’	Grouping file	Yes
’6F05’	Language indication	Yes
’6F07’	IMSI	Caution (Note 1)
’6F08’	Ciphering and integrity keys	No
’6F09’	Ciphering and integrity keys for packet switched domain	No
’6F20’	Ciphering key Kc	No
’6F2C’	De-personalization Control Keys	Caution
’6F31’	HPLMN search period	Caution
’6F32’	Co-operative network list	Caution
’6F37’	ACM maximum value	Yes
’6F38’	USIM service table	Caution
’6F39’	Accumulated call meter	Yes
’6F3B’	Fixed dialling numbers	Yes
’6F3C’	Short messages	Yes
’6F4F’	Extended Capability configuration parameters	Yes
’6F3E’	Group identifier level 1	Yes
’6F3F’	Group identifier level 2	Yes

Continued….

File identification	Description	Change advised
’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
’6F4B’	Extension 2	Yes
’6F4C’	Extension 3	Yes
’6F4D’	Barred dialling numbers	Yes
’6F4E’	Extension 5	Yes
’6F4F’	Capability configuration parameters 2	Yes
’6F50’	CBMIR	Yes
’6F52’	GPRS Ciphering key KcGPRS	No
’6F54’	SetUp Menu Elements	Yes
’6F56’	Enabled services table	
’6F57’	Access point name control list	
’6F58’	Comparison method information	
’6F5B’	Initialisation value for Hyperframe number	Caution
’6F5C’	Maximum value of START	Yes
’6F60’	User controlled PLMN selector with Access Technology	No
’6F61’	Operator controlled PLMN selector with Access Technology	Caution
’6F62’	HPLMN selector with Access Technology	Caution
’6F63’	RPLMN last used Access Technology	Caution
’6F73’	Packet switched location information	Caution
’6F78’	Access control class	Caution
’6F7B’	Forbidden PLMNs	Caution
’6F7E’	Location information	No (Note 1)
’6F80’	Incoming call information	Yes
’6F81’	Outgoing call information	Yes
’6F82’	Incoming call timer	Yes
’6F83’	Outgoing call timer	Yes
’6FAD’	Administrative data	Caution
’6FB5’	Enhanced Multi Level Pre-emption and Priority	Yes
’6FB6’	Automatic Answer for eMLPP Service	Yes
’6FB7’	Emergency Call Codes	Caution
’6FC2’	Group identity	No
’6FC3’	Key for hidden phone book entries	
’6FC4’	Network Parameters	No
’6FC5’	PLMN Network Name	Yes
’6FC6’	Operator Network 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	
‘6FCE’	MMS Notification	Yes
‘6FCF’	Extension 8	Yes
‘6FD0’	MMS Issuer Connectivity Parameters	Yes
‘6FXX’	MMS User Connectivity Parameters	Yes
‘6FD1’	MMS User Preferences	Yes

NOTE1: If EF_{IMSI} is changed, the UICC should issue REFRESH as defined in TS 31.111 and update EF_{LOCI} accordingly.

Annex D (informative): Tags defined in 31.102

Tag	Name of Data Element	Usage
'A0'	GSM cell information The following tags are encapsulated within 'A0': '80' GSM Camping Frequency data object '81' GSM Neighbour Frequency Information data object	Network Parameters (EF_{NETPAR})
'A1'	FDD cell information The following tags are encapsulated within 'A1': '80' FDD Intra Frequency data object '81' FDD Inter Frequency Information data object	Network Parameters (EF_{NETPAR})
'A2'	TDD cell information The following tags are encapsulated within 'A2': '80' TDD Intra Frequency data object '81' TDD Inter Frequency Information data object	Network Parameters (EF_{NETPAR})
'A3'	Service provider display information The following tags are encapsulated within 'A3': '80' Service provider PLMN list	Service Provider Display Information (EF_{SPDI})
'A8'	Indicator for type 1 EFs (amount of records equal to master EF) The following tags are encapsulated within 'A8': 'C0' EF_{ADN} data object 'C1' EF_{IAP} data object 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'C5' EF_{PBC} data object 'C6' EF_{GRP} data object 'C9' EF_{UID} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF_{PBR})
'A9'	Indicator for type 2 EFs (EFs linked via the index administration file) The following tags are encapsulated within 'A9': 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF_{PBR})
'AA'	Indicator for type 3 EFs (EFs addressed inside an object using a record identifier as a pointer) The following tags are encapsulated within 'AA': 'C2' EF_{EXT1} data object 'C7' EF_{AAS} data object 'C8' EF_{GAS} data object 'CB' EF_{CCP1} data object	Phone Book Reference File (EF_{PBR})
'AB'	MMS Connectivity Parameters: The following are encapsulated under '~~AX~~'AB': '80' MMS Implementation Tag '81' MMS Relay/Server Tag '82' Interface to core network and bearer Tag '83' Gateway Tag	MMS Connectivity Parameters (EF_{MMSICP}~~)~~/ EF_{MMSUCP})
'DB'	Successful 3G authentication	Response to AUTHENTICATE
'DC'	Synchronisation failure	Response to AUTHENTICATE
'DD'	Access Point Name	APN Control List (EF_{ACL})

NOTE: the value 'FF' is an invalid tag value. For ASN.1 tag assignment rules see ISO/IEC 8825 [35]

Annex E (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
’2F00’	Application directory	Card issuer/operator dependant
’2F05’	Preferred languages	'FF…FF'
'2F06'	Access rule reference	Card issuer/operator dependant
'2FE2'	ICC identification	operator dependant
'4F20'	Image data	'00FF...FF'
'4FXX'	Image instance data files	'FF…FF'
'4FXX'	Unique identifier	'0000'
'4F22'	Phone book synchronisation counter	'00000000'
'4F23'	Change counter	'0000'
'4F24'	Previous unique identifier	'0000'
'4F30'	Phone book reference file	Operator dependant
'4FXX'	Capability configuration parameters 1	'FF…FF'
'4F63'	CPBCCH Information	'FF..FF'
'4F64'	Investigation PLMN scan	'00'
'4FXX'	E-mail addresses	'FF…FF'
'4FXX'	Additional number alpha string	'FF…FF'
'4FXX'	Second name entry	'FF…FF'
'4FXX'	Abbreviated dialling numbers	'FF...FF'
'4FXX'	Grouping file	'00…00'
'4FXX'	Grouping information alpha string	'FF…FF'
'4FXX'	Phone book control	'0000'
'4FXX'	Index administration phone book	'FF…FF'
'4FXX'	Additional number	'FF…FF'
'4FXX'	Extension 1	'00FF...FF'
'6F05'	Language indication	'FF…FF'
'6F07'	IMSI	Operator dependant
'6F08'	Ciphering and integrity keys	'07FF…FF'
'6F09'	Ciphering and integrity keys for packet switched domain	'07FF…FF'
'6F20'	Ciphering key Kc	'FF...FF07'
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	HPLMN search period	'FF'
'6F32'	Co-operative network list	'FF…FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	USIM service table	Operator dependant
'6F39'	Accumulated call meter	'000000'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3E'	Group identifier level 1	Operator dependant
'6F3F'	Group identifier level 2	Operator dependant
'6F40'	MSISDN storage	'FF...FF'
'6F41'	PUCT	'FFFFFF0000'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	Operator dependant
'6F47'	Short message status reports	'00FF…FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F4B'	Extension 2	'00FF...FF'
'6F4C'	Extension 3	'00FF...FF'

Continued....

File Identification	Description	Value
’6F4D’	Barred Dialling Numbers	'FF...FF’
’6F4E’	Extension 5	'00FF...FF’
’6F4F’	Capability configuration parameters 2	'FF...FF’
’6F50’	CBMIR	'FF...FF’
’6F52’	GPRS Ciphering key KcGPRS	'FF...FF07’
’6F54’	SetUp Menu Elements	Operator dependant
’6F55’	Extension 4	'FF...FF’
’6F56’	Enabled services table	Operator dependant
’6F57’	Access point name control list	'00FF…FF'
'6F58'	Comparison method information	'FF…FF'
'6F5B'	Initialisation value for Hyperframe number	'F0 00 00 F0 00 00'
'6F5C'	Maximum value of START	Operator dependant
'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'
'6F65'	RPLMN last used Access Technology	'0000'
'6F73'	Packet switched location information	'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F78'	Access control class	Operator dependant
'6F7B'	Forbidden PLMNs	'FF...FF'
'6F7E	Location information	'FFFFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F80'	Incoming call information	'FF…FF 000000 00 01FFFF'
'6F81'	Outgoing call information	'FF…FF 000000 01FFFF'
'6F82'	Incoming call timer	'000000'
'6F83'	Outgoing call timer	'000000'
'6FAD'	Administrative data	Operator dependant
'6FB5'	EMLPP	Operator dependant
'6FB6'	AaeM	'00'
'6FB7'	Emergency call codes	Operator dependant
'6FC2'	Group identity	'FFFFFFFF'
'6FC3'	Key for hidden phone book entries	'FF…FF'
'6FC4'	Network Parameters	'FF…FF'
'6FC5'	PLMN Network Name	Operator dependant
'6FC6'	Operator Network 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	
‘6FCE’	MMS Notification	’00 00 00 FF…FF’
‘6FCF’	Extension 8	'FF...FF'
‘6FD0’	MMS Issuer Connectivity Parameters	‘FF…FF’
‘6FXX’	MMS User Connectivity Parameters	‘FF…FF’
‘6FD1’	MMS User Preferences	‘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 24.008 [9].

3GPP T3 (USIM) Meeting #23
Espoo, Finland, 21-24 May 2002

T3-020423

CR-Form-v3

CHANGE REQUEST

⌘ **31.102** **CR** **111** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Handling of different sets of connectivity parameters and automatic bearer selection
Source:	⌘	T3
Work item code:	⌘	UICC1 ***Date:*** ⌘ 24-05-2002
Category:	⌘	**F** ***Release:*** ⌘ REL-4

Use one of the following categories:
F *(essential 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)

Reason for change:	⌘	3GPP SA1/SA approved two new requirements w.r.t automatic bearer selection for MMS and MMS connectivity parameters for release 5 of the stage 1 specification of MMS (TS 22.140).
Summary of change:	⌘	Mechanisms for: - An order of precedence for Interface to core network and bearer information, which allows automatic bearer selection. - Different sets of MMS Connectivity Parameters, from which the preset set is only configurable by the issuer of the USIM and the other sets by the user.
Consequences if not approved:	⌘	- Bearer selection can only be done manual. - The user must configure manually MMS service each time he changes terminal or network operator. - SA1 requirements are not met.
Clauses affected:	⌘	4.2.8, 4.2.69, 4.7, 5.3.30, Annex A, Annex D, Annex E
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] 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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

…

4.2.8 EF_{UST} (USIM Service Table)

This EF indicates which services are available. If a service is not indicated as available in the USIM, the ME shall not select this service.

Identifier: '6F38'	Structure: transparent	Mandatory
SFI: '04'		
File size: X bytes, X >= 1	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Services n°1 to n°8	M	1 byte
2	Services n°9 to n°16	O	1 byte
3	Services n°17 to n°24	O	1 byte
4	Services n°25 to n°32	O	1 byte
etc.			
X	Services n°(8X-7) to n°(8X)	O	1 byte

-Services

Contents:		
	Service n°1:	Local Phone Book
	Service n°2:	Fixed Dialling Numbers (FDN)
	Service n°3:	Extension 2
	Service n°4:	Service Dialling Numbers (SDN)
	Service n°5:	Extension3
	Service n°6:	Barred Dialling Numbers (BDN)
	Service n°7:	Extension4
	Service n°8:	Outgoing Call Information (OCI and OCT)
	Service n°9:	Incoming Call Information (ICI and ICT)
	Service n°10:	Short Message Storage (SMS)
	Service n°11:	Short Message Status Reports (SMSR)
	Service n°12:	Short Message Service Parameters (SMSP)
	Service n°13:	Advice of Charge (AoC)
	Service n°14:	Capability Configuration Parameters (CCP)
	Service n°15:	Cell Broadcast Message Identifier
	Service n°16:	Cell Broadcast Message Identifier Ranges
	Service n°17:	Group Identifier Level 1
	Service n°18:	Group Identifier Level 2
	Service n°19:	Service Provider Name
	Service n°20:	User controlled PLMN selector with Access Technology
	Service n°21:	MSISDN
	Service n°22:	Image (IMG)
	Service n°23:	Not used (reserved for SoLSA)
	Service n°24:	Enhanced Multi-Level Precedence and Pre-emption Service
	Service n°25:	Automatic Answer for eMLPP
	Service n°26:	RFU
	Service n°27:	GSM Access
	Service n°28:	Data download via SMS-PP
	Service n°29:	Data download via SMS-CB
	Service n°30:	Call Control by USIM
	Service n°31:	MO-SMS Control by USIM
	Service n°32:	RUN AT COMMAND command
	Service n°33:	shall be set to '1'
	Service n°34:	Enabled Services Table
	Service n°35:	APN Control List (ACL)
	Service n°36:	Depersonalisation Control Keys
	Service n°37:	Co-operative Network List
	Service n°38:	GSM security context
	Service n°39:	CPBCCH Information
	Service n°40:	Investigation Scan
	Service n°41:	MExE
	Service n°42:	Operator controlled PLMN selector with Access Technology
	Service n°43:	HPLMN selector with Access Technology
	Service n°44:	Extension 5
	Service n°45:	PLMN Network Name
	Service n°46:	Operator PLMN List
	Service n°47:	Mailbox Dialling Numbers
	Service n°48:	Message Waiting Indication Status
	Service n°49:	Call Forwarding Indication Status
	Service n°50:	RPLMN Last used Access Technology
	Service n°51:	Service Provider Display Information
	Service n°52	Multimedia Messaging Service (MMS)
	Service n°53	Extension 8
	Service n°54	Call control on GPRS by USIM
	Service n°xx	MMS User Connectivity Parameters

The EF shall contain at least one byte. 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 the 3GPP.
Coding:

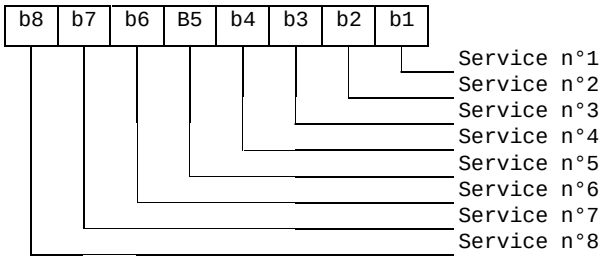
1 bit is used to code each service:

bit = 1: service available;
bit = 0: service not available.

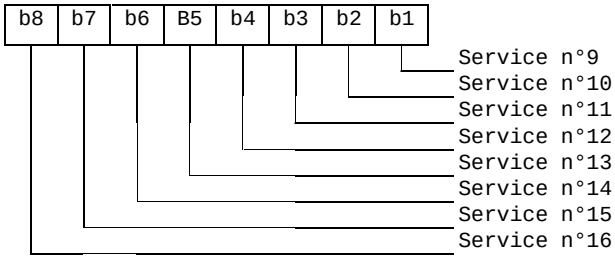
- Service available means that the USIM has the capability to support the service and that the service is available for the user of the USIM unless the service is identified as "disabled" in EF_{EST}.

Service not available means that the service shall not be used by the USIM user, even if the USIM has the capability to support the service.

First byte:



Second byte:



…

4.2.69 EF_{MMSICP} (MMS Issuer Connectivity Parameters)

If service n°52 is "available", 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 order of the bearer information TLV objects in the MMS Connectivity TLV object defines the priority of the bearers, with the first TLV object having the highest priority.

Identifier: '6FD0'	Structure: Transparent	Optional
File Size: X bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM~~/PIN2 (fixed during administrative management)~~
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	MMS Connectivity Parameters TLV objects	M	X 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 Tag	'82'
GatewayTag	'83'

- MMS Connectivity Parameters contents

Description	Value	M/O	Length (bytes)
MMS Connectivity Parameters Tag	~~'AX'~~'AB'	M	1
Length	Note 1	M	Note 2
MMS Implementation Tag	'80'	M	1
Length	1	M	~~Note 2~~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 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 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 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 [35]			

- MMS Implementation Tag '80'
  See section 4.2.67 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 [38].

- Interface to Core Network and Bearer Tag '82'
  Contents:
  The Interface to Core Network and Bearer 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 [38].

- 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 [38].

Unused bytes shall be set to 'FF'.

4.2.xx EF$_{MMSUCP}$ (MMS User Connectivity Parameters)

If service n°52 and n°xx are "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the user, which can be used by the ME for MMS network connection. The order of the bearer information TLV objects in the MMS Connectivity TLV object defines the priority of the bearers, with the first TLV object having the highest priority.

Identifier: '6FXX'	Structure: Transparent	Optional
File Size: X bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN/PIN2
	(fixed during administrative management)
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	MMS Connectivity Parameters TLV objects	O	X bytes

For the contents and coding see 4.2.69

•••

4.7 Files of USIM

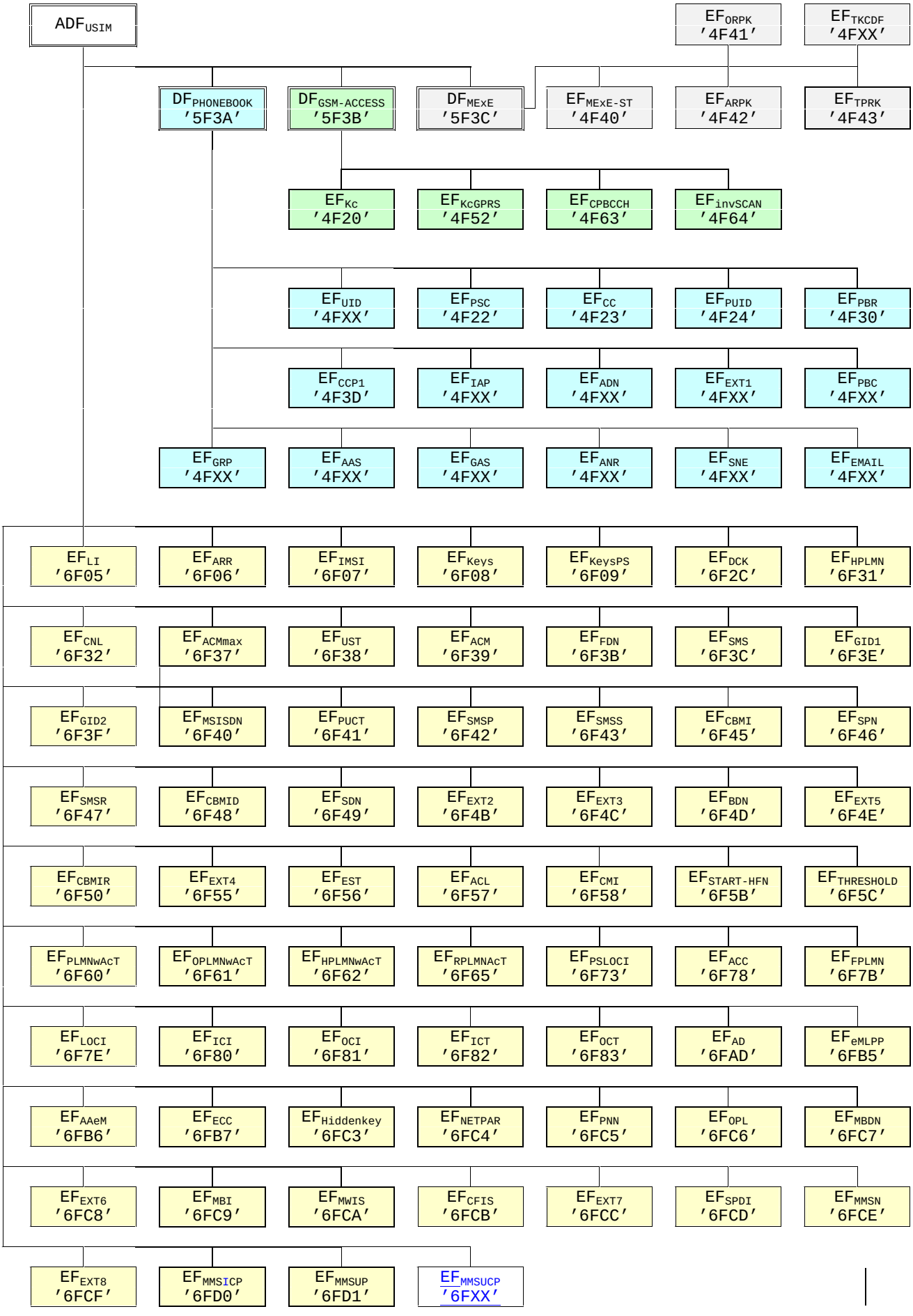

ADF USIM
EF ORPK '4F41'
EF TKCDF '4FXX'
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF Kc '4F20'
EF KcGPRS '4F52'
EF CPBCCH '4F63'
EF invSCAN '4F64'
EF UID '4FXX'
EF PSC '4F22'
EF CC '4F23'
EF PUID '4F24'
EF PBR '4F30'
EF CCP1 '4F3D'
EF IAP '4FXX'
EF ADN '4FXX'
EF EXT1 '4FXX'
EF PBC '4FXX'
EF GRP '4FXX'
EF AAS '4FXX'
EF GAS '4FXX'
EF ANR '4FXX'
EF SNE '4FXX'
EF EMAIL '4FXX'
EF LI '6F05'
EF ARR '6F06'
EF IMSI '6F07'
EF Keys '6F08'
EF KeysPS '6F09'
EF DCK '6F2C'
EF HPLMN '6F31'
EF CNL '6F32'
EF ACMmax '6F37'
EF UST '6F38'
EF ACM '6F39'
EF FDN '6F3B'
EF SMS '6F3C'
EF GID1 '6F3E'
EF GID2 '6F3F'
EF MSISDN '6F40'
EF PUCT '6F41'
EF SMSP '6F42'
EF SMSS '6F43'
EF CBMI '6F45'
EF SPN '6F46'
EF SMSR '6F47'
EF CBMID '6F48'
EF SDN '6F49'
EF EXT2 '6F4B'
EF EXT3 '6F4C'
EF BDN '6F4D'
EF EXT5 '6F4E'
EF CBMIR '6F50'
EF EXT4 '6F55'
EF EST '6F56'
EF ACL '6F57'
EF CMI '6F58'
EF START-HFN '6F5B'
EF THRESHOLD '6F5C'
EF PLMNwAcT '6F60'
EF OPLMNwAcT '6F61'
EF HPLMNwAcT '6F62'
EF RPLMNAcT '6F65'
EF PSLOCI '6F73'
EF ACC '6F78'
EF FPLMN '6F7B'
EF LOCI '6F7E'
EF ICI '6F80'
EF OCI '6F81'
EF ICT '6F82'
EF OCT '6F83'
EF AD '6FAD'
EF eMLPP '6FB5'
EF AAeM '6FB6'
EF ECC '6FB7'
EF Hiddenkey '6FC3'
EF NETPAR '6FC4'
EF PNN '6FC5'
EF OPL '6FC6'
EF MBDN '6FC7'
EF EXT6 '6FC8'
EF MBI '6FC9'
EF MWIS '6FCA'
EF CFIS '6FCB'
EF EXT7 '6FCC'
EF SPDI '6FCD'
EF MMSN '6FCE'
EF EXT8 '6FCF'
EF MMSICP '6FD0'
EF MMSUP '6FD1'
EF MMSUCP '6FXX'

Figure 4.2: File identifiers and directory structures of USIM

...

5.3.30 MMS Issuer Connectivity Parameters

- Requirement: Service n°52 "available".
- Request: the ME performs the reading procedure with EF_{MMSICP}.
- Update: The ME performs the updating procedure with EF_{MMSICP}.

5.3.XX MMS User Connectivity Parameters

- Requirement: Service n°52 and n°xx "available".
- Request: the ME performs the reading procedure with EF_{MMSUCP}.
- Update: The ME performs the updating procedure with EF_{MMSUCP}.

...

Annex A (informative): EF changes via Data Download or USAT applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by a USAT Application, is advisable. Updating of certain EFs "over the air" such as EFACC could result in unpredictable behaviour of the UE; 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
’2F00’	Application directory	
’2F05’	Preferred languages	Yes
’2F06’	Access rule reference	
’2FE2’	ICC identification	No
’4F20’	Image data	Yes
’4FXX’	Image Instance data Files	Yes
’4FXX’	Unique identifier	Yes
’4F22’	Phone book synchronisation counter	Yes
’4F23’	Change counter	Yes
’4F24’	Previous unique identifier	Yes
’4F30’	Phone book reference file	Yes
’4FXX’	Capability configuration parameters 1	Yes
’4F75’	CPBCCH Information	No
’4F76	Investigation Scan	Caution
’4FXX’	Additional number alpha string	Yes
’4FXX’	Additional number	Yes
’4FXX’	Second name entry	Yes
’4FXX’	Grouping information alpha string	Yes
’4FXX’	Phone book control	Yes
’4FXX’	E-mail addresses	Yes
’4FXX’	Index administration phone book	Yes
’4FXX’	Extension 1	Yes
’4FXX’	Abbreviated dialling numbers	Yes
’4FXX’	Grouping file	Yes
’6F05’	Language indication	Yes
’6F07’	IMSI	Caution (Note 1)
’6F08’	Ciphering and integrity keys	No
’6F09’	Ciphering and integrity keys for packet switched domain	No
’6F20’	Ciphering key Kc	No
’6F2C’	De-personalization Control Keys	Caution
’6F31’	HPLMN search period	Caution
’6F32’	Co-operative network list	Caution
’6F37’	ACM maximum value	Yes
’6F38’	USIM service table	Caution
’6F39’	Accumulated call meter	Yes
’6F3B’	Fixed dialling numbers	Yes
’6F3C’	Short messages	Yes
’6F4F’	Extended Capability configuration parameters	Yes
’6F3E’	Group identifier level 1	Yes
’6F3F’	Group identifier level 2	Yes

Continued….

File identification	Description	Change advised
’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
’6F4B’	Extension 2	Yes
’6F4C’	Extension 3	Yes
’6F4D’	Barred dialling numbers	Yes
’6F4E’	Extension 5	Yes
’6F4F’	Capability configuration parameters 2	Yes
’6F50’	CBMIR	Yes
’6F52’	GPRS Ciphering key KcGPRS	No
’6F54’	SetUp Menu Elements	Yes
’6F56’	Enabled services table	
’6F57’	Access point name control list	
’6F58’	Comparison method information	
’6F5B’	Initialisation value for Hyperframe number	Caution
’6F5C’	Maximum value of START	Yes
’6F60’	User controlled PLMN selector with Access Technology	No
’6F61’	Operator controlled PLMN selector with Access Technology	Caution
’6F62’	HPLMN selector with Access Technology	Caution
’6F63’	RPLMN last used Access Technology	Caution
’6F73’	Packet switched location information	Caution
’6F78’	Access control class	Caution
’6F7B’	Forbidden PLMNs	Caution
’6F7E’	Location information	No (Note 1)
’6F80’	Incoming call information	Yes
’6F81’	Outgoing call information	Yes
’6F82’	Incoming call timer	Yes
’6F83’	Outgoing call timer	Yes
’6FAD’	Administrative data	Caution
’6FB5’	Enhanced Multi Level Pre-emption and Priority	Yes
’6FB6’	Automatic Answer for eMLPP Service	Yes
’6FB7’	Emergency Call Codes	Caution
’6FC2’	Group identity	No
’6FC3’	Key for hidden phone book entries	
’6FC4’	Network Parameters	No
’6FC5’	PLMN Network Name	Yes
’6FC6’	Operator Network 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	
‘6FCE’	MMS Notification	Yes
‘6FCF’	Extension 8	Yes
‘6FD0’	MMS Issuer Connectivity Parameters	Yes
‘6FXX’	MMS User Connectivity Parameters	Yes
‘6FD1’	MMS User Preferences	Yes

NOTE1: If EF_{IMSI} is changed, the UICC should issue REFRESH as defined in TS 31.111 and update EF_{LOCI} accordingly.

Annex D (informative): Tags defined in 31.102

Tag	Name of Data Element	Usage
'A0'	GSM cell information The following tags are encapsulated within 'A0': '80' GSM Camping Frequency data object '81' GSM Neighbour Frequency Information data object	Network Parameters (EF_{NETPAR})
'A1'	FDD cell information The following tags are encapsulated within 'A1': '80' FDD Intra Frequency data object '81' FDD Inter Frequency Information data object	Network Parameters (EF_{NETPAR})
'A2'	TDD cell information The following tags are encapsulated within 'A2': '80' TDD Intra Frequency data object '81' TDD Inter Frequency Information data object	Network Parameters (EF_{NETPAR})
'A3'	Service provider display information The following tags are encapsulated within 'A3': '80' Service provider PLMN list	Service Provider Display Information (EF_{SPDI})
'A8'	Indicator for type 1 EFs (amount of records equal to master EF) The following tags are encapsulated within 'A8': 'C0' EF_{ADN} data object 'C1' EF_{IAP} data object 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'C5' EF_{PBC} data object 'C6' EF_{GRP} data object 'C9' EF_{UID} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF_{PBR})
'A9'	Indicator for type 2 EFs (EFs linked via the index administration file) The following tags are encapsulated within 'A9': 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF_{PBR})
'AA'	Indicator for type 3 EFs (EFs addressed inside an object using a record identifier as a pointer) The following tags are encapsulated within 'AA': 'C2' EF_{EXT1} data object 'C7' EF_{AAS} data object 'C8' EF_{GAS} data object 'CB' EF_{CCP1} data object	Phone Book Reference File (EF_{PBR})
'AB'	MMS Connectivity Parameters: The following are encapsulated under '~~AX~~'AB': '80' MMS Implementation Tag '81' MMS Relay/Server Tag '82' Interface to core network and bearer Tag '83' Gateway Tag	MMS Connectivity Parameters (EF_{MMSICP}~~)~~/ EF_{MMSUCP})
'DB'	Successful 3G authentication	Response to AUTHENTICATE
'DC'	Synchronisation failure	Response to AUTHENTICATE
'DD'	Access Point Name	APN Control List (EF_{ACL})

NOTE: the value 'FF' is an invalid tag value. For ASN.1 tag assignment rules see ISO/IEC 8825 [35]

Annex E (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
’2F00’	Application directory	Card issuer/operator dependant
’2F05’	Preferred languages	'FF…FF'
'2F06'	Access rule reference	Card issuer/operator dependant
'2FE2'	ICC identification	operator dependant
'4F20'	Image data	'00FF...FF'
'4FXX'	Image instance data files	'FF…FF'
'4FXX'	Unique identifier	'0000'
'4F22'	Phone book synchronisation counter	'00000000'
'4F23'	Change counter	'0000'
'4F24'	Previous unique identifier	'0000'
'4F30'	Phone book reference file	Operator dependant
'4FXX'	Capability configuration parameters 1	'FF…FF'
'4F63'	CPBCCH Information	'FF..FF'
'4F64'	Investigation PLMN scan	'00'
'4FXX'	E-mail addresses	'FF…FF'
'4FXX'	Additional number alpha string	'FF…FF'
'4FXX'	Second name entry	'FF…FF'
'4FXX'	Abbreviated dialling numbers	'FF...FF'
'4FXX'	Grouping file	'00…00'
'4FXX'	Grouping information alpha string	'FF…FF'
'4FXX'	Phone book control	'0000'
'4FXX'	Index administration phone book	'FF…FF'
'4FXX'	Additional number	'FF…FF'
'4FXX'	Extension 1	'00FF...FF'
'6F05'	Language indication	'FF…FF'
'6F07'	IMSI	Operator dependant
'6F08'	Ciphering and integrity keys	'07FF…FF'
'6F09'	Ciphering and integrity keys for packet switched domain	'07FF…FF'
'6F20'	Ciphering key Kc	'FF...FF07'
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	HPLMN search period	'FF'
'6F32'	Co-operative network list	'FF…FF'
'6F37'	ACM maximum value	'000000' (see note 1)
'6F38'	USIM service table	Operator dependant
'6F39'	Accumulated call meter	'000000'
'6F3B'	Fixed dialling numbers	'FF...FF'
'6F3C'	Short messages	'00FF...FF'
'6F3E'	Group identifier level 1	Operator dependant
'6F3F'	Group identifier level 2	Operator dependant
'6F40'	MSISDN storage	'FF...FF'
'6F41'	PUCT	'FFFFFF0000'
'6F42'	SMS parameters	'FF...FF'
'6F43'	SMS status	'FF...FF'
'6F45'	CBMI	'FF...FF'
'6F46'	Service provider name	Operator dependant
'6F47'	Short message status reports	'00FF…FF'
'6F48'	CBMID	'FF...FF'
'6F49'	Service Dialling Numbers	'FF...FF'
'6F4B'	Extension 2	'00FF...FF'
'6F4C'	Extension 3	'00FF...FF'

Continued....

File Identification	Description	Value
’6F4D’	Barred Dialling Numbers	'FF...FF’
’6F4E’	Extension 5	'00FF...FF’
’6F4F’	Capability configuration parameters 2	'FF...FF’
’6F50’	CBMIR	'FF...FF’
’6F52’	GPRS Ciphering key KcGPRS	'FF...FF07’
’6F54’	SetUp Menu Elements	Operator dependant
’6F55’	Extension 4	'FF...FF’
’6F56’	Enabled services table	Operator dependant
’6F57’	Access point name control list	'00FF…FF'
'6F58'	Comparison method information	'FF…FF'
'6F5B'	Initialisation value for Hyperframe number	'F0 00 00 F0 00 00'
'6F5C'	Maximum value of START	Operator dependant
'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'
'6F65'	RPLMN last used Access Technology	'0000'
'6F73'	Packet switched location information	'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F78'	Access control class	Operator dependant
'6F7B'	Forbidden PLMNs	'FF...FF'
'6F7E	Location information	'FFFFFFFF xxxxxx 0000 FF 01' (see note 2)
'6F80'	Incoming call information	'FF…FF 000000 00 01FFFF'
'6F81'	Outgoing call information	'FF…FF 000000 01FFFF'
'6F82'	Incoming call timer	'000000'
'6F83'	Outgoing call timer	'000000'
'6FAD'	Administrative data	Operator dependant
'6FB5'	EMLPP	Operator dependant
'6FB6'	AaeM	'00'
'6FB7'	Emergency call codes	Operator dependant
'6FC2'	Group identity	'FFFFFFFF'
'6FC3'	Key for hidden phone book entries	'FF…FF'
'6FC4'	Network Parameters	'FF…FF'
'6FC5'	PLMN Network Name	Operator dependant
'6FC6'	Operator Network 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	
‘6FCE’	MMS Notification	’00 00 00 FF…FF’
‘6FCF’	Extension 8	'FF...FF'
‘6FD0’	MMS Issuer Connectivity Parameters	‘FF…FF’
‘6FXX’	MMS User Connectivity Parameters	‘FF…FF’
‘6FD1’	MMS User Preferences	‘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 24.008 [9].

3GPP-T3 Meeting #23
Espoo, Finnland, 21 – 24 May 2002

Tdoc T3-020414

CR-Form-v4

CHANGE REQUEST

⌘ **31.102** **CR** **112** ⌘ rev **-** ⌘ Current version: **3.8.0** ⌘

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

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

Title:	⌘	CMI - Alignment with TS 11.11 R99
Source:	⌘	T3
Work item code:	⌘	UICC1
Date:	⌘	24.05.02
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)

Reason for change:	⌘	The coding of EF_{CMI} (comparison method information) is different between TS 11.11 and TS 31.102.
Summary of change:	⌘	Swap one byte in the coding of the CMI. Correct the method coding.
Consequences if not approved:	⌘	There will be no mapping possible of EF_{CMI} between SIM and USIM. Furthermore, cards and MEs will have to support two different codings.

Clauses affected:	⌘	4.2.46
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] 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/3G_Specs/CRs.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.

4.2.46 EF_{CMI} (Comparison Method Information)

This EF contains the list of Comparison Method Identifiers and alpha-tagging associated with BDN entries (see EF_{BDN}). This EF shall be present if EF_{BDN} is present.

Identifier: '6F58'	Structure: linear fixed	Optional
Record length: X+1 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha ~~Comparison Method~~ Identifier	M	~~1~~ X bytes
~~2 to~~ X+1	~~Alpha~~Comparison Method Identifier	M	~~X~~1 bytes

- Alpha Identifier.
  Contents:
  Alpha-tagging of the associated Comparison Method Identifier.
  Coding:
  Same as the alpha identifier in EF_{ADN}.
- Comparison Method Identifier.
  Contents:
  - this byte describes the comparison method which is associated with a BDN record. Its interpretation is not specified but it shall be defined by the card issuers implementing the BDN feature on their USIMs.

  Coding:
  - binary; values from 0 to 255 are allowed.

The default coding 255 is reserved for empty field

3GPP-T3 Meeting #23
Espoo, Finnland, 21 – 24 May 2002

Tdoc T3-020415

CR-Form-v4

CHANGE REQUEST

⌘ **31.102** **CR** **113** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	CMI - Alignment with TS 51.011 REL-4
Source:	⌘	T3
Work item code:	⌘	UICC1
Date:	⌘	24.05.02
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)

Reason for change:	⌘	The coding of EF_{CMI} (comparison method information) is different between TS 51.011 and TS 31.102.
Summary of change:	⌘	Swap one byte in the coding of the CMI. Correct the method coding.
Consequences if not approved:	⌘	There will be no mapping possible of EF_{CMI} between SIM and USIM. Furthermore, cards and MEs will have to support two different codings.

Clauses affected:	⌘	4.2.46
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

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

4.2.46 EF_{CMI} (Comparison Method Information)

This EF contains the list of Comparison Method Identifiers and alpha-tagging associated with BDN entries (see EF_{BDN}). This EF shall be present if EF_{BDN} is present.

Identifier: '6F58'	Structure: linear fixed	Optional
Record length: X+1 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha ~~Comparison Method~~ Identifier	M	~~1~~ X bytes
~~2 to~~ X+1	~~Alpha~~Comparison Method Identifier	M	~~X~~1 bytes

- Alpha Identifier.
  Contents:
  Alpha-tagging of the associated Comparison Method Identifier.
  Coding:
  Same as the alpha identifier in EF_{ADN}.
- Comparison Method Identifier.
  Contents:
  - this byte describes the comparison method which is associated with a BDN record. Its interpretation is not specified but it shall be defined by the card issuers implementing the BDN feature on their USIMs.

  Coding:
  - binary; values from 0 to 255 are allowed.

The default coding 255 is reserved for empty field

3GPP-T3 Meeting #23
Espoo, Finnland, 21 – 24 May 2002

Tdoc T3-020416

CR-Form-v4

CHANGE REQUEST

⌘ **31.102** **CR** **114** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘	CMI - Alignment with TS 51.011 REL-5
Source:	⌘	T3
Work item code:	⌘	UICC1
Date:	⌘	24.05.02
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
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R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The coding of EF_{CMI} (comparison method information) is different between TS 51.011 and TS 31.102.
Summary of change:	⌘	Swap one byte in the coding of the CMI. Correct the method coding.
Consequences if not approved:	⌘	There will be no mapping possible of EF_{CMI} between SIM and USIM. Furthermore, cards and MEs will have to support two different codings.

Clauses affected:	⌘	4.2.46
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

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

4.2.46 EF_{CMI} (Comparison Method Information)

This EF contains the list of Comparison Method Identifiers and alpha-tagging associated with BDN entries (see EF_{BDN}). This EF shall be present if EF_{BDN} is present.

Identifier: '6F58'	Structure: linear fixed	Optional
Record length: X+1 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha ~~Comparison Method~~ Identifier	M	~~1~~ X bytes
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- Alpha Identifier.
  Contents:
  Alpha-tagging of the associated Comparison Method Identifier.
  Coding:
  Same as the alpha identifier in EF_{ADN}.
- Comparison Method Identifier.
  Contents:
  - this byte describes the comparison method which is associated with a BDN record. Its interpretation is not specified but it shall be defined by the card issuers implementing the BDN feature on their USIMs.

  Coding:
  - binary; values from 0 to 255 are allowed.

The default coding 255 is reserved for empty field