3GPP TSG-T (Terminals) Meeting #16
Marco Island, FL, USA, 5 - 7 June, 2002

Tdoc TP-020133

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

T3-020411

Title: MMS UA Behaviour with Respect to Handling MMS Parameters on the USIM

Response to: 1) LS T2-020264 on "MMS related changes for Rel-4" from T2
2) LS T2-020530 on "MMS configuration information on the USIM" from T2
3) LS T2-020531 on "Automatic bearer selection for MMS delivery and submission" from T2

Release:

Source: T3
To: T2
Cc: T, SA1

Contact Person:
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Attachments: T3-020412 CR to 31.102 – Handling of different sets of connectivity parameters and automatic bearer selection

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T3 thanks T2 for the opportunity to comment on the contribution of the USIM to the behaviour of the MMS User Agent as expressed in the various action items addressed to T3 in the above-mentioned liaison statements.

1) Overall Description:

With respect to the use by the User Agent of the MMS parameters stored on the USIM that is discussed in the first three paragraphs of REL-5 CR T2-020265 attached to LS T2-020264, it is T3's suggestion that the use of these parameters by the User Agent be mandatory if the parameters are present on the USIM. This behaviour would be compatible with respect to the subscriber's general expectations regarding use of USIM parameters as the USIM is moved from one terminal to another.

With respect to the updating of the status byte in the records in the notification table EF_{MMSN} discussed in paragraph four of the CR, T3 strongly suggests that it be mandatory for the User Agent to perform the listed update actions so that the notification table accurately mirrors reality as well as the user's understanding of the current state of same.

Both of these suggestions can be effected by changing each appearance of the word 'may' and each appearance of the word 'should' in REL-5 CR T2-020265 to the word 'shall'.

1) Actions:

ACTION #1: T3 asks T2 to consider the above changes to their REL-5 CR T2-020265.

2) Overall Description:

T3 has addressed T2's requirement for the separation of issuer and user configuration parameters expressed in LS T2-020530 and LS T2-020531 by providing two MMS configuration parameter files, one for the issuer and one for the user, as described in the attached CR to 3GPP TS 31.102.

2) Actions:

ACTION #2: T3 believes we have addressed T2's requirements as described in their LSs by means of the attached CR to 3GPP TS 31.102. Should T2 have additional issues with regards to these requirements, T3 will be happy to accommodate them in a timely fashion. T3 suggests that T2 add MMS User Agent behaviour for handling these separate files in the affected specifications.

3) Overall Description:

According to the CR to 31.102 that is attached, the interface to core network and bearer information is linearly ordered within the MMS connectivity parameter data objects contained in the two configuration files mentioned in (2) above. Therefore, when the User Agent finds a data object that matches its needs, the order of the interface to core network and bearer information within the applicable MMS connectivity data parameter object can be taken to be the priority ordering of the interface to core network and bearer information for the situation at hand.

3) Actions:

ACTION #3: T3 believes we have addressed T2's requirements as described in their LSs by means of the attached CR to 3GPP TS 31.102. Should T2 have additional issues with regards to these requirements, T3 will be happy to accommodate them in a timely fashion. T3 suggests that T2 add MMS User Agent behaviour for implementing core network and bearer selection priority in the affected specifications.

Dates of Next T3 Meetings:

T3#24	20 - 23 August 2002	Seattle, Washington, USA
T3#25	5 - 8 November 2002	Unknown

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

T3-020412

CR-Form-v3

CHANGE REQUEST

⌘ **31.102** **CR** **108** ⌘ 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:	⌘	TEI
Date:	⌘	24-05-2002
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:	⌘	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.

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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:

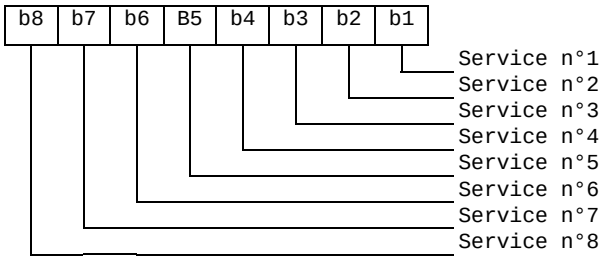
bit = 1: service available;

bit = 0: service not available.

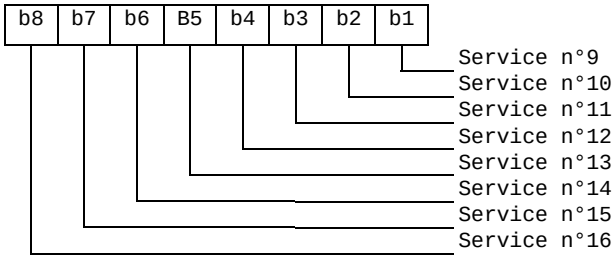
- Service available means that the USIM has the capability to support the service and that the service is available for the user of the USIM unless the service is identified as "disabled" in EF_{EST}.

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:



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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

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4.7 Files of USIM

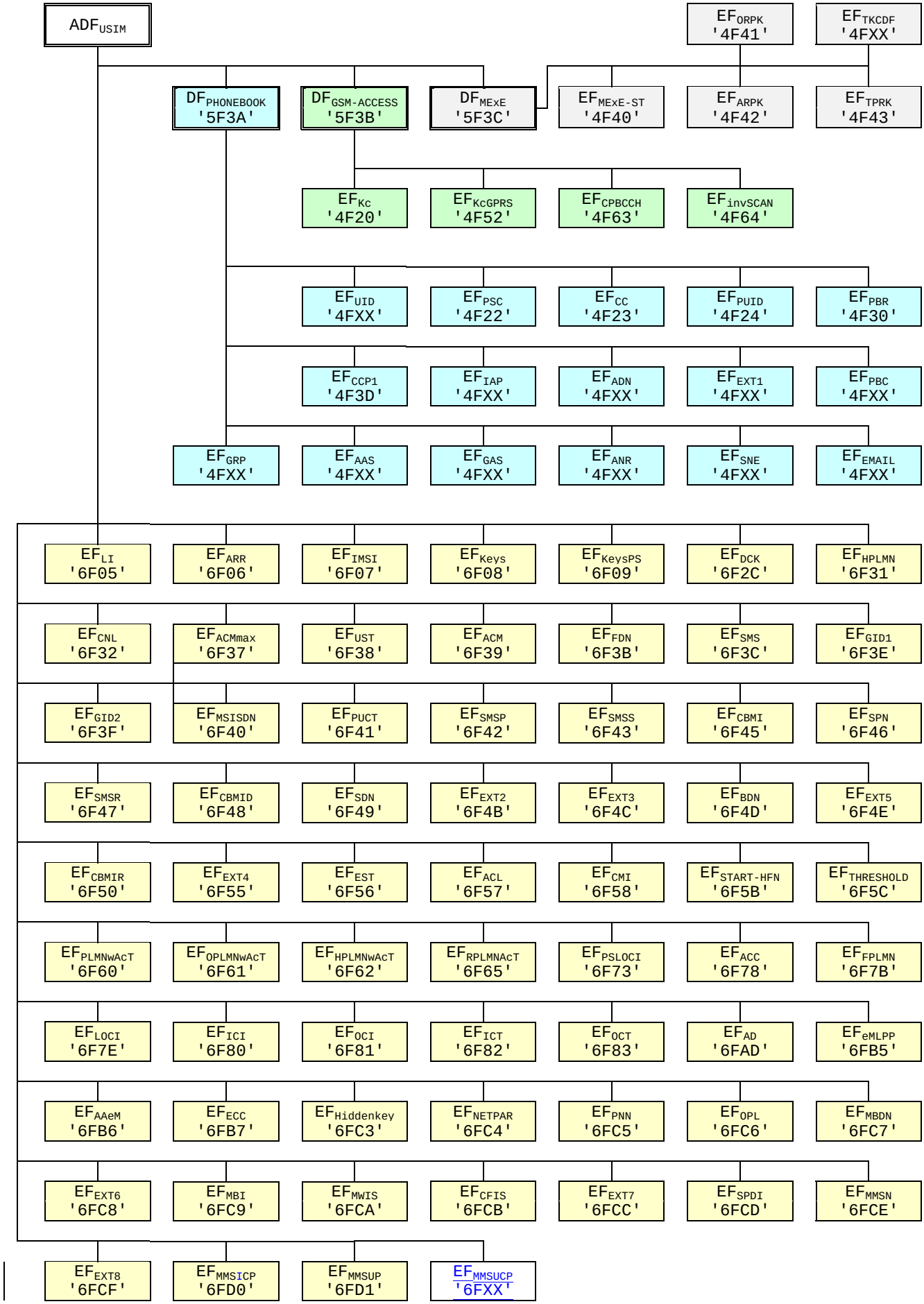
ADF USIM
EF ORPK '4F41'
EF TKCDF '4FXX'
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF Kc '4F20'
EF KcGPRS '4F52'
EF CPBCCH '4F63'
EF invSCAN '4F64'
EF UID '4FXX'
EF PSC '4F22'
EF CC '4F23'
EF PUID '4F24'
EF PBR '4F30'
EF CCP1 '4F3D'
EF IAP '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

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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}.

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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].