

Title: Reply LS on Storage of temporary identities for EAP authentication (T3-040427= N1-041045)
Release: Rel-6
Work Item: WLAN

Source: T3
To: SA3
Cc: CN1

Contact Person:

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Attachments: T3-040545

1. Overall Description:

T3 would like to thank CN1 for their LS on Storage of temporary identities for EAP authentication.

T3 would like to inform CN1 that taking into account CN1's decision, T3 has implemented the needed Elementary File (EF) for storage of re-authentication identity and associated security parameters in the USIM (T3-040545).

Additionally, T3 acknowledges that the storage of re-authentication identities and associated security parameters in the USIM provides enhancements in power off/power on situations (as were identified in SA3 LS: S3-040176) but does not impact or enhance security in fast re-authentication procedures.

If a combination of fast re-authentication benefits (such as re-authentication speed and authentication vectors savings) and security enhancements (i.e. secure storage of fast re-authentication credentials) is required by 3GPP, mechanisms where re-authentication credentials do not leave the USIM following a re-authentication procedure need to be further investigated. T3 would like to draw SA3's attention to the proposal on EAP support in the USIM, which might provide the required solution.

2. Actions:

To SA3 group.

ACTION: T3 kindly asks SA3 to examine further requirements for security enhancements of fast re-authentication procedures and to analyze the proposal solution based on EAP support in USIM, if these security enhancements are introduced in 3GPP I-WLAN.

T3 would also like SA3 to come back to T3 if further work is needed on this topic for completion of Rel-6 changes in the appropriate specification(s).

3. Date of Next TSG-T3 Meetings:

Meeting	Date	Location
3GPP-T3#33	16-19 November 2004	Sophia-Antipolis, France

3GPP-T3#34	8-11 February 2005	Barcelona, Spain
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CHANGE REQUEST

31.102 CR 238 rev - Current version: 6.6.0

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

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


Title:	Storage of WLAN fast re-authentication information		
Source:	Axalto		
Work item code:	TEI	Date:	06/07/2004
Category:	B	Release:	Rel-6
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p>

Reason for change:	As requested by CN1 in their LS to T3 (T3-040427) the USIM shall support the storage of all temporary identities for EAP authentication, including re-authentication identity and associated security parameters. In addition, 3GPP TS 24.234 mandates in §6.1.1 the storage of re-authentication information (i.e. re-authentication identity, Master Key and Counter value) on the USIM. There are also clear SA1 service requirements (S1-040257) and SA3 recommendations (S3-040019) on that.
Summary of change:	<p>The following changes are included:</p> <ul style="list-style-type: none"> - Addition of EF_{RI} (Reauthentication Identity) under DF_{WLAN} - Addition of related procedures
Consequences if not approved:	Lack of description of needed parameters and features in the USIM related to WLAN fast re-authentication procedure

Clauses affected:	4.2.8, 4.4.5, 4.4.5.x (new), 4.7, 5.6.x (new), Annex A, Annex E										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> <tr> <td style="width: 20px; text-align: center;"> </td> <td style="width: 20px; text-align: center;"> </td> </tr> </table>	Y	N							Other core specifications Test specifications O&M Specifications	
Y	N										
Other comments:											

How to create CRs using this form:

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

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

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:	Support of Localised Service Areas (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:	CPBCCCH 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:	Reserved and shall be ignored
	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°55:	MMS User Connectivity Parameters
	Service n°56:	Network's indication of alerting in the MS (NIA)
	Service n°57:	VGCS Group Identifier List (EF _{VGCS} and EF _{VGCS})
	Service n°58:	VBS Group Identifier List (EF _{VBS} and EF _{VBS})
	Service n°59:	Pseudonym
	Service n°60:	User Controlled PLMN selector for WLAN access
	Service n°61:	Operator Controlled PLMN selector for WLAN access
	Service n°62:	User controlled SSID list
	Service n°63:	Operator controlled SSID list
	Service n°64:	VGCS security
	Service n°xx	WLAN Reauthentication Identity

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:

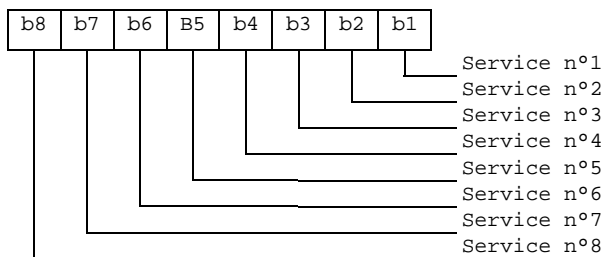
1 bit is used to code each service:

bit = 1: service available;

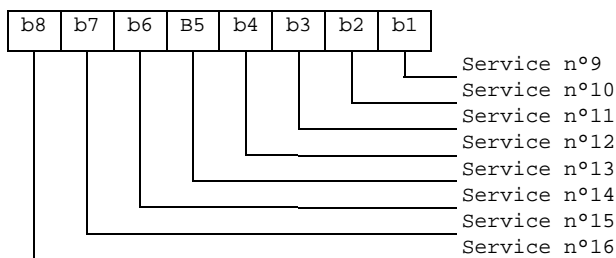
bit = 0: service not available.

- 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:



etc.

4.4.5 Contents of files at the DF WLAN level

This clause describes the additional files that are used for WLAN purposes.

| DF_{WLAN} shall be present at the ADF_{USIM} level if either of the services n°59, n°60, n°61, n°62, ~~n°63~~ [or n°xx](#) are allocated in the corresponding EF_{UST} (USIM Service Table).

4.4.5.x EF_{RWRI} (WLAN Reauthentication Identity)

This EF contains a list of parameters linked to a re-authentication identity to be used in fast re-authentication. Re-authentication identities and related parameters (Master Key and Counter Value) are provided as part of a previous authentication sequence. This file shall be present if service n°xx is allocated in EF_{UST}.

<u>Identifier: '4FXX'</u>		<u>Structure: Transparent</u>	<u>Optional</u>
<u>SFI: 'XX'</u>			
<u>File size: n bytes (n≥J+K+L+6)</u>		<u>Update activity: high</u>	
<u>Access Conditions:</u>			
<u>READ</u>		<u>PIN</u>	
<u>UPDATE</u>		<u>PIN</u>	
<u>DEACTIVATE</u>		<u>ADM</u>	
<u>ACTIVATE</u>		<u>ADM</u>	
<u>Bytes</u>	<u>Description</u>	<u>M/O</u>	<u>Length</u>
<u>1</u>	<u>Reauthentication Identity Tag '80'</u>	<u>M</u>	<u>1 byte</u>
<u>2</u>	<u>Re-authentication Identity Length</u>	<u>M</u>	<u>1 byte</u>
<u>3-J+2</u>	<u>Re-authentication Identity Value</u>	<u>M</u>	<u>J bytes</u>
<u>J+3</u>	<u>Master Key Tag '81'</u>	<u>M</u>	<u>1 byte</u>
<u>J+4</u>	<u>Master Key Length</u>	<u>M</u>	<u>1 byte</u>
<u>J+5-J+K+4</u>	<u>Master Key Value</u>	<u>M</u>	<u>K bytes</u>
<u>J+K+5</u>	<u>Counter Tag '82'</u>	<u>M</u>	<u>1 byte</u>
<u>J+K+6</u>	<u>Counter Length</u>	<u>M</u>	<u>1 byte</u>
<u>J+K+7- J+K+L+6</u>	<u>Counter Value</u>	<u>M</u>	<u>L bytes</u>

- Reauthentication Identity

Contents:

- Re-authentication identity TLV to be used as the username part of the NAI.

Coding:

Tag '80'

Unsigned length on 1 byte

Value: As described for the user portion of the NAI in TS 33.234 [41]. Unused bytes shall be set to 'FF' and shall not be considered as a part of the value.

- Master Key

Contents:

- Master Key TLV.

Coding:

Tag '81'

Unsigned length on 1 byte

Value: As described in TS 33.234 [41].

- Counter

Contents:

- Counter TLV

Coding:

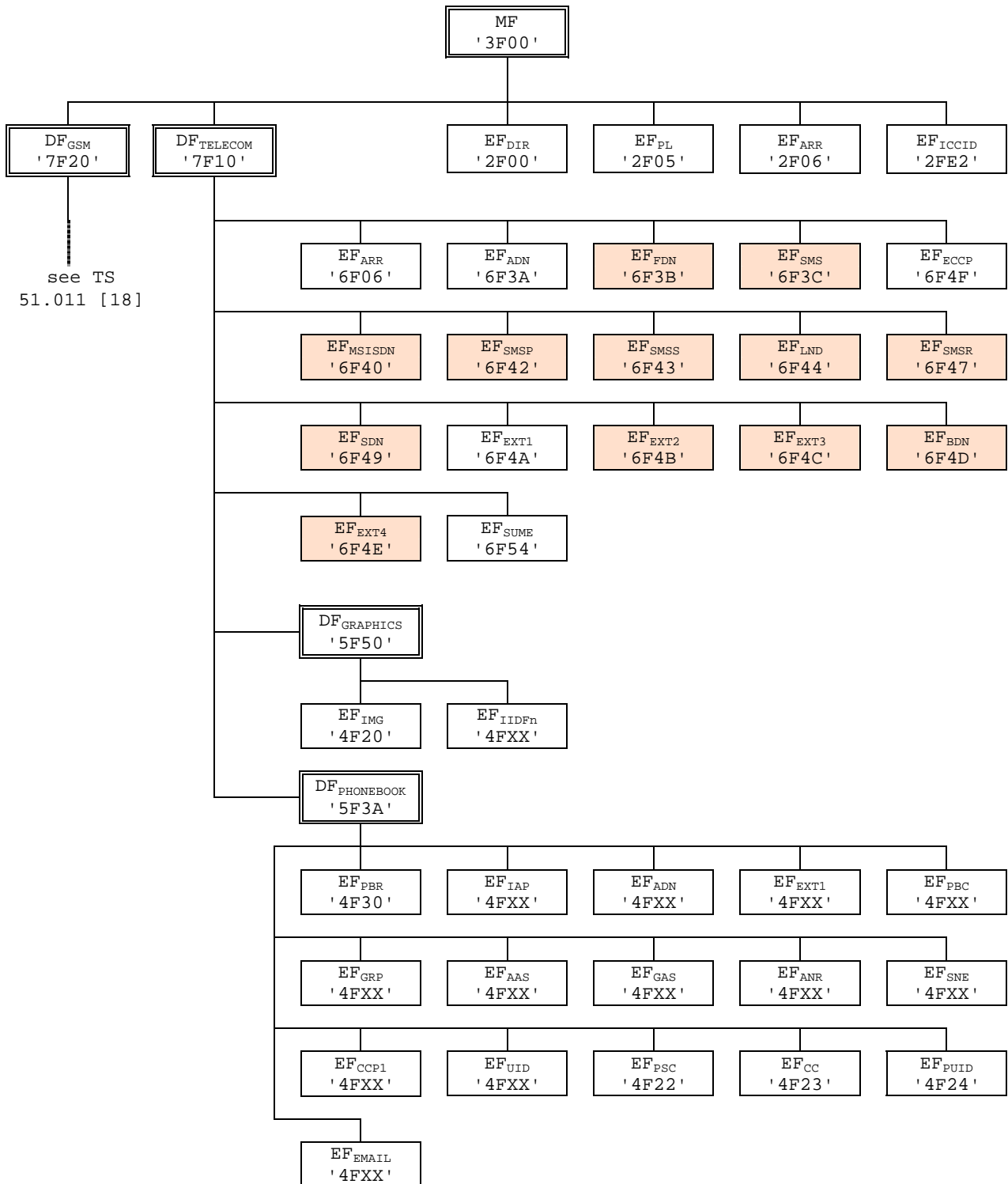
Tag '82'

Unsigned length on 1 byte

Value: As described in TS 33.234 [41].

4.7 Files of USIM

This clause contains two figures depicting the file structure of the UICC and the ADF_{USIM}. ADF_{USIM} shall be selected using the AID and information in EF_{DIR}.



NOTE 1: Files under DF_{TELECOM} with shaded background are defined in TS 51.011 [18].

NOTE 2: The value '6F65' under ADF_{USIM} was used in earlier versions of this specification, and should not be re-assigned in future versions.

Figure 4.1: File identifiers and directory structures of UICC

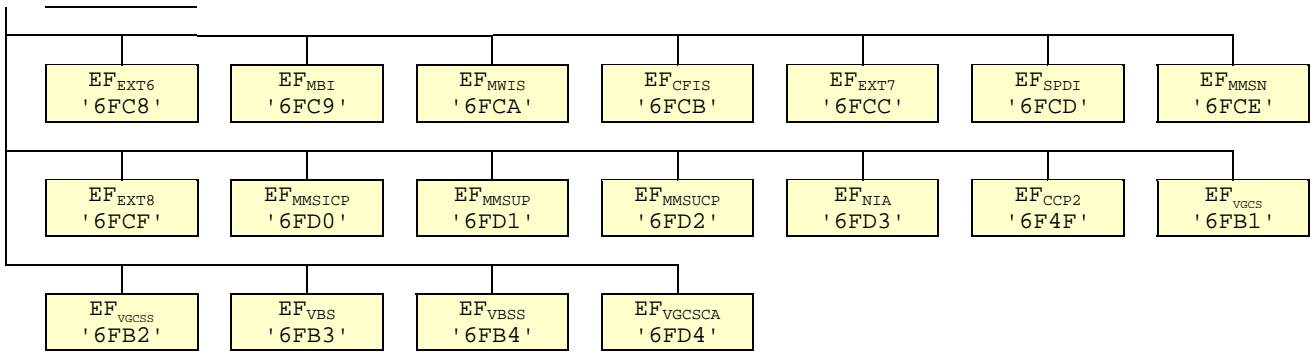


Figure 4.2: File identifiers and directory structures of USIM

5.6.x WLAN access re-authentication related procedures

Requirement: service n°xx "available"

When the ME tries a fast re-authentication, it shall inspect if a valid reauthentication identity is available in EF_{RWRL} and use it as the user name portion of the NAI for WLAN access re-authentication following the procedures described in TS 24.234 [40].

The ME shall manage re-authentication identities, Master Key and counter values as described in TS 24.234 [40].

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 Cipherring 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
'4F30'	SoLSA Access Indicator	Caution
'4F31'	SoLSA LSA List	Caution
'4FXX'	LSA Descriptor files	Caution
'4F52'	GPRS Cipherring key KcGPRS	No
'4F63'	CPBCCH Information	No
'4F64'	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
'4F41'	Pseudonym	Caution
'4F42'	User controlled PLMN selector for WLAN	No
'4F43'	Operator controlled PLMN selector for WLAN	Caution
'4F44'	User controlled SSID List	No
'4F45'	Operator controlled SSID List	Caution
'4FXX'	WLAN Reauthentication Identity	No
'6F05'	Language indication	Yes
'6F06'	Access rule reference (under ADF _{USIM} and DF _{TELECOM})	Caution
'6F07'	IMSI	Caution (Note 1)
'6F08'	Cipherring and integrity keys	No
'6F09'	Cipherring and integrity keys for packet switched domain	No
'6F2C'	De-personalization Control Keys	Caution
'6F31'	Higher Priority PLMN 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
'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
'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
'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
'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
'6FB1'	Voice Group Call Service	Yes
'6FB2'	Voice Group Call Service Status	Yes
'6FB3'	Voice Broadcast Service	Yes
'6FB4'	Voice Broadcast Service Status	Yes
'6FB5'	Enhanced Multi Level Pre-emption and Priority	Yes
'6FB6'	Automatic Answer for eMLPP Service	Yes
'6FB7'	Emergency Call Codes	Caution
'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 Issuer Connectivity Parameters	Yes
'6FD1'	MMS User Preferences	Yes
'6FD2'	MMS User Connectivity Parameters	Yes
'6FD3'	Network's indication of alerting (NIA)	Caution
'6FD4'	Voice Group Call Service Ciphering Algorithm	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 Cipherring 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
'4F30'	SoLSA Access Indicator	'00FF...FF'
'4F31'	SoLSA LSA List	'FF...FF'
'4FXX'	LSA Descriptor files	'FF...FF'
'4FXX'	Capability configuration parameters 1	'FF...FF'
'4F52'	GPRS Cipherring key KcGPRS	'FF...FF07'
'4F63'	CPBCCCH 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'
'4F41'	Pseudonym	'00FF...FF'
'4F42'	User Controlled PLMN selector for WLAN	'FF...FF'
'4F43'	Operator Controlled PLMN selector for WLAN	Operator dependant
'4F44'	User Controlled SSID list	'00FF...FF'
'4F45'	Operator controlled SSID list	Operator dependant
'4FXX'	WLAN Reauthentication Identity	'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'	Cipherring and integrity keys	'07FF...FF'
'6F09'	Cipherring and integrity keys for packet switched domain	'07FF...FF'
'6F2C'	De-personalization control keys	'FF...FF'
'6F31'	Higher Priority PLMN 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'
'6F54'	SetUp Menu Elements	Operator dependant
'6F55'	Extension 4	'00FF...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'
'6F73'	Packet switched location information	'FFFFFFFF FFFFFFFF 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
'6FB1'	Voice Group Call Service	Operator dependant
'6FB2'	Voice Group Call Service Status	Operator dependant
'6FB3'	Voice Broadcast Service	Operator dependant
'6FB4'	Voice Broadcast Service Status	Operator dependant
'6FB5'	EMLPP	Operator dependant
'6FB6'	AaeM	'00'
'6FB7'	Emergency call codes	Operator dependant
'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	'00FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF...FF'
'6FD1'	MMS User Preferences	'FF...FF'
'6FD2'	MMS User Connectivity Parameters	'FF...FF'
'6FD3'	Network's Indication of Alerting (NIA)	'FF...FF'
'6FD4'	Voice Group Call Service Ciphing Algorithm	'00...00'

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].

