3GPP TSG-T plenary meeting #22
Maui, US, 10-12 December 2003

Tdoc TP-030251

Source: T3

Title: CRs to TS 31.102: Characteristics of the USIM Application

Document for: Approval

This document contains the following change requests:

Spec	CR	Rev	Phase	Subject	Cat	new ver.	Doc-2nd-Level
31.102	163	-	R99	Removal of references to TS 02.07	F	3.15.0	T3-030959
31.102	164	-	Rel-4	Removal of references to TS 02.07	A	4.11.0	T3-030960
31.102	165	-	Rel-5	Removal of references to TS 02.07	A	5.7.0	T3-030961
31.102	166	-	Rel-6	Removal of references to TS 02.07	A	6.4.0	T3-030962
31.102	167	-	R99	Correction of T=0 protocol parameters	F	3.15.0	T3-030947
31.102	168	-	Rel-4	Correction of T=0 protocol parameters	A	4.11.0	T3-030979
31.102	169	-	Rel-5	Correction of T=0 protocol parameters	A	5.7.0	T3-030982
31.102	170	-	R99	Corrections on files for support of GSM services using USIM / NIA	F	3.15.0	T3-030989
31.102	171	-	Rel-4	Corrections on files for support of GSM services using USIM / NIA	A	4.11.0	T3-030990
31.102	172	-	Rel-5	Corrections on files for support of GSM services using USIM / NIA	A	5.7.0	T3-030991
31.102	173	-	Rel-6	Corrections on files for support of GSM services using USIM / NIA	A	6.4.0	T3-030992
31.102	174	-	R99	Support of GSM services on USIM	F	3.15.0	T3-030993
31.102	175	-	Rel-4	Support of GSM services on USIM	A	4.11.0	T3-030994
31.102	176	-	Rel-5	Support of GSM services on USIM	A	5.7.0	T3-030995
31.102	177	-	Rel-6	Support of GSM services on USIM	A	6.4.0	T3-030996
31.102	178	-	R99	Corrections on files for support of GSM services using USIM - ASCI Files	F	3.15.0	T3-030997
31.102	179	-	Rel-4	Corrections on files for support of GSM services using USIM - ASCI Files	A	4.11.0	T3-030998
31.102	180	-	Rel-5	Corrections on files for support of GSM services using USIM - ASCI Files	A	5.7.0	T3-030999

31.102	181	-	Rel-6	Corrections on files for support of GSM services using USIM - ASCI Files	A	6.4.0	T3-031000
31.102	182	-	R99	Alignment of EF-HPLMN Search Period with 22.011 and 23.122	F	3.15.0	T3-031019
31.102	183	-	Rel-4	Alignment of EF-HPLMN Search Period with 22.011 and 23.122	A	4.11.0	T3-031020
31.102	184	-	Rel-5	Alignment of EF-HPLMN Search Period with 22.011 and 23.122	A	5.7.0	T3-031021
31.102	185	-	Rel-6	Alignment of EF-HPLMN Search Period with 22.011 and 23.122	A	6.4.0	T3-031022
31.102	186	-	R99	Correction of SFI support	F	3.15.0	T3-030955
31.102	187	-	Rel-4	Correction of SFI support	A	4.11.0	T3-030956
31.102	188	-	Rel-5	Correction of SFI support	A	5.7.0	T3-030957
31.102	189	-	Rel-6	Editorial corrections for Image files	D	6.4.0	T3-030958
31.102	190	-	Rel-6	Expansion of Message Waiting Indication Status EFs	C	6.4.0	T3-030977
31.102	191	-	R99	Correction to the description of mandatory SFIs	F	3.15.0	T3-030980
31.102	192	-	Rel-4	Correction to the description of mandatory SFIs	A	4.11.0	T3-031033
31.102	193	-	Rel-5	Correction to the description of mandatory SFIs	A	5.7.0	T3-031034
31.102	194	-	Rel-6	Correction to the description of mandatory SFIs	A	6.4.0	T3-031035
31.102	195	-	R99	Clarification of “free” entry in EF_EXT1/EF_EXT4	F	3.15.0	T3-030963
31.102	196	-	Rel-4	Clarification of “free” entry in EF_EXT1/EF_EXT4	F	4.11.0	T3-030964
31.102	197	-	Rel-5	Clarification of “free” entry in EF_EXT1/4/8	F	5.7.0	T3-031036
31.102	198	-	Rel-6	Clarification of “free” entry in EF_EXT1/4/8	F	6.4.0	T3-031037
31.102	199	-	Rel-6	Correction to Annex G Phonebook Example	F	6.4.0	T3-030954

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030959⌘
(revised from T3-030907)

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **163** ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Removal of references to TS 02.07
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	Reference to a non-existent specification (TS 02.07)
Summary of change:	⌘	Removed TS 02.07 in the list of references. Replaced references to TS 02.07 by references to TS 22.101.
Consequences if not approved:	⌘	Inconsistency of the specification.

Clauses affected:	⌘	2, 4.2.12, 4.2.18, 4.4.2.3,

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

Other comments:	⌘	CR needs to be applied to all existing releases (R99 to Rel-6).

2 References

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

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[1] 3GPP TS 21.111: "USIM and IC Card Requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS) Point-to-Point (PP)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi Level Precedence and Pre-emption service (eMLPP) - Stage 1".

[9] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-Terminal Interface, Physical and Logical Characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3GPP Security; Security Architecture".

[14] 3GPP TS 33.103: "3GPP Security; Integration Guidelines".

[15] 3GPP TS 22.086: "Advice of charge (AoC) Supplementary Services - Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast (CB)".

[17] ~~3GPP TS 02.07: "Mobile Stations (MS) features".~~ Void.

[18] 3GPP TS 11.11: "Specification of the Subscriber Identity Module – Mobile Equipment (SIM – ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts, Part 5: Numbering system and registration procedure for application identifiers".

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

[23] ITU-T Recommendation T.50: "International Alphabet No. 5 Information technology - 7-bit coded character set for information interchange").

[24] 3GPP TS 22.101: "Service aspects; service principles".

[25] 3GPP TS 23.003: "Numbering, Addressing and Identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts, Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalisation of GSM Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 04.18 "Mobile Interface Layer3 Specification, Radio Resource control protocol"

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE);Functional description; Stage 2".

[31] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode"

[32] ISO/IEC 7816-6 (1996): "Identification cards -- Integrated circuit(s) cards with contacts -- Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)"

[34] 3GPP TS 05.05: "Radio Transmission and Reception"

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

4.2.12 EF_{SPN} (Service Provider Name)

This EF contains the service provider name and appropriate requirements for the display by the ME.

Identifier: '6F46'	Structure: transparent	Optional
File Size: 17 bytes	Update activity: low	

Access Conditions:

READ	ALWAYS
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Display Condition	M	1 byte
2 to 17	Service Provider Name	M	16 bytes

- Display Condition
  Contents: display condition for the service provider name in respect to the registered PLMN (see ~~GSM 02.07 [17]~~TS 22.101 [24]).
  Coding:

b8	b7	b6	b5	b4	b3	b2	b1

```
b1=0: display of registered PLMN not required
b1=1: display of registered PLMN required
RFU (see TS 31.101)
```

- Service Provider Name
  Contents:
  service provider string to be displayed
  Coding:
  the string shall use:
  - either the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The string shall be left justified. Unused bytes shall be set to 'FF'.
  - or one of the UCS2 code options defined in the annex of TS 31.101 [11].

4.2.18 EF_{AD} (Administrative Data)

This EF contains information concerning the mode of operation according to the type of USIM, such as normal (to be used by PLMN subscribers for 3G operations), type approval (to allow specific use of the ME during type approval procedures of e.g. the radio equipment), cell testing (to allow testing of a cell before commercial use of this cell), manufacturer specific (to allow the ME manufacturer to perform specific proprietary auto-test in its ME during e.g. maintenance phases).

It also provides an indication of whether some ME features should be activated during normal operation as well as information about the length of the MNC, which is part of the International Mobile Subscriber Identity (IMSI).

Identifier: '6FAD'	Structure: transparent	Mandatory
SFI: '03'		
File size: 4+X bytes	Update activity: low	

Access Conditions:

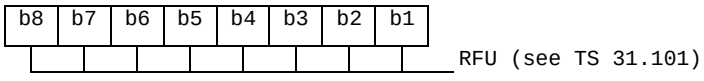
READ	ALW
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	UE operation mode	M	1 byte
2 to 3	Additional information	M	2 bytes
4	length of MNC in the IMSI	M	1 byte
5 to 4+X	RFU	O	X bytes

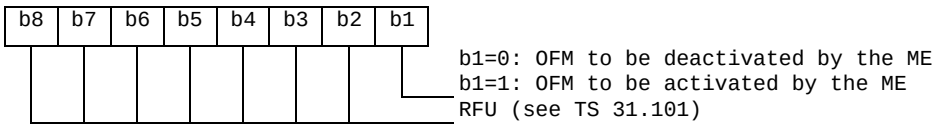
- UE operation mode:
  Contents:
  mode of operation for the UE
  Coding:
  Initial value
  - '00' normal operation.
  - '80' type approval operations.
  - '01' normal operation + specific facilities.
  - '81' type approval operations + specific facilities.
  - '02' maintenance (off line).
  - '04' cell test operation.

- Additional information:
  Coding:
  - specific facilities (if b1=1 in byte 1);

  Byte 2 (first byte of additional information):



  Byte 3:



  The OFM bit is used to control the Ciphering Indicator as specified in TS 22.101 [24].

  - ME manufacturer specific information (if b2=1 in byte 1).

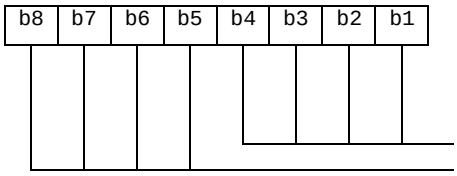
- Length of MNC in the IMSI :

Contents:

The length indicator refers to the number of digits, used for extracting the MNC from the IMSI

Coding:

Byte 4:



~~The OFM bit is used to control the Ciphering Indicator as specified in GSM 02.07 [17].~~

~~ME manufacturer specific information (if b2=1 in byte 1).~~

4.4.2.3 EF_{ADN} (Abbreviated dialling numbers)

This EF contains Abbreviated Dialling Numbers (ADN) and/or Supplementary Service Control strings (SSC). In addition it contains identifiers of associated network/bearer capabilities and identifiers of extension records. It may also contain an associated alpha-tagging.

Identifier: '4FXX'	Structure: linear fixed	Conditional (see Note)
SFI: 'YY'		
Record length: X+14 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha Identifier	O	X bytes
X+1	Length of BCD number/SSC contents	M	1 byte
X+2	TON and NPI	M	1 byte
X+3 to X+12	Dialling Number/SSC String	M	10 bytes
X+13	Capability/Configuration1 Identifier	M	1 byte
X+14	Extension1 Record Identifier	M	1 byte

NOTE: This file is mandatory if and only if $DF_{PHONEBOOK}$ is present.

- Alpha Identifier.
  Contents:
  - Alpha-tagging of the associated dialling number.

  Coding:
  - this alpha-tagging shall use
    either:
    - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'.

    or:
    - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

NOTE 1: The value of X may be from zero to 241. Using the command GET RESPONSE the ME can determine the value of X.

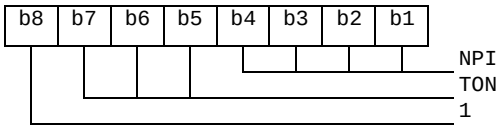
- Length of BCD number/SSC contents.
  Contents:
  - this byte gives the number of bytes of the following two data items containing actual BCD number/SSC information. This means that the maximum value is 11, even when the actual ADN/SSC information length is greater than 11. When an ADN/SSC has extension, it is indicated by the extension1 identifier being unequal to 'FF'. The remainder is stored in the EF_{EXT1} with the remaining length of the additional data being coded in the appropriate additional record itself (see clause 4.4.2.4).

  Coding:
  - according to TS 24.008 [9].

- TON and NPI.
  Contents:
  - Type of number (TON) and numbering plan identification (NPI).

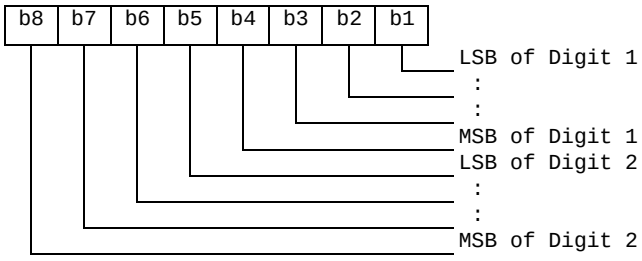
  Coding:
  - according to TS 24.008 [9]. If the Dialling Number/SSC String does not contain a dialling number, e.g. a control string deactivating a service, the TON/NPI byte shall be set to 'FF' by the ME (see note 2).

NOTE 2: If a dialling number is absent, no TON/NPI byte is transmitted over the radio interface (see TS 24.008 [9]). Accordingly, the ME should not interpret the value 'FF' and not send it over the radio interface.

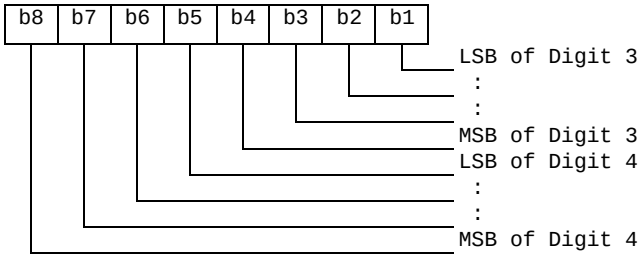


- Dialling Number/SSC String
  Contents:
  - up to 20 digits of the telephone number and/or SSC information.
  Coding:
  - according to TS 24.008 [9] , TS 22.030 [4] and the extended BCD-coding (see table 4.4). If the telephone number or SSC is longer than 20 digits, the first 20 digits are stored in this data item and the remainder is stored in an associated record in the EF_{EXT1}. The record is identified by the Extension1 Record Identifier. If ADN/SSC require less than 20 digits, excess nibbles at the end of the data item shall be set to 'F'. Where individual dialled numbers, in one or more records, of less than 20 digits share a common appended digit string the first digits are stored in this data item and the common digits stored in an associated record in the EF_{EXT1}. The record is identified by the Extension 1 Record Identifier. Excess nibbles at the end of the data item shall be set to 'F'.

Byte X+3



Byte X+4:



etc.

- Capability/Configuration1 Identifier.
  Contents:
  - capability/configuration identification byte. This byte identifies the number of a record in the EF_{CCP1} containing associated capability/configuration parameters required for the call. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  Coding:
  - binary.

- Extension1 Record Identifier.
  Contents:
  - extension1 record identification byte. This byte identifies the number of a record in the EF_{EXT1} containing an associated called party subaddress or additional data. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  - if the ADN/SSC requires both additional data and called party subaddress, this byte identifies the additional record. A chaining mechanism inside EF_{EXT1} identifies the record of the appropriate called party subaddress (see clause 4.4.2.4).
  Coding:
  - binary.

NOTE 3: EF_{ADN} in the public phone book under $DF_{TELECOM}$ may be used by USIM, GSM and also other applications in a multi-application card. If the non-GSM application does not recognise the use of Type of Number (TON) and Number Plan Identification (NPI), then the information relating to the national dialling plan shall be held within the data item dialling number/SSC and the TON and NPI fields set to UNKNOWN. This format would be acceptable for 3G operation and also for the non-GSM application where the TON and NPI fields shall be ignored.

EXAMPLE: SIM storage of an International Number using E.164 [22] numbering plan.

	TON	NPI	Digit field.
USIM application	001	0001	abc...
Other application compatible with 3G	000	0000	xxx...abc...

where "abc..." denotes the subscriber number digits (including its country code), and "xxx..." denotes escape digits or a national prefix replacing TON and NPI.

NOTE 4: When the ME acts upon the EF_{ADN} with a SEARCH RECORD command in order to identify a character string in the alpha-identifier, it is the responsibility of the ME to ensure that the number of characters used as SEARCH RECORD parameters are less than or equal to the value of X if the MMI allows the user to offer a greater number.

Table 4.4: Extended BCD coding

BCD Value	Character/Meaning
'0'	"0"
:	:
'9'	"9"
'A'	"*"
'B'	"#"
'C'	DTMF Control digit separator (~~GSM 02.07 [17]~~see TS 22.101 [24]).
'D'	"Wild" value. This will cause the MMI to prompt the user for a single digit (see ~~GSM 02.07 [17]~~TS 22.101 [24]).
'E'	RFU.
'F'	Endmark e.g. in case of an odd number of digits.

BCD values 'C', 'D' and 'E' are never sent across the radio interface.

NOTE 5: A second or subsequent 'C' BCD value will be interpreted as a 3 second PAUSE (see ~~GSM 02.07 [17]~~TS 22.101 [24]).

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030960⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **164** ⌘**rev** **-** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Removal of references to TS 02.07
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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

⌘

Other comments:	⌘	CR needs to be applied to all existing releases (R99 to Rel-6).

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[5] 3GPP TS 23.038: "Alphabets and language".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

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[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast (CB)".

~~[17] 3GPP TS 02.07: "Mobile Stations (MS) features".~~Void.

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module – Mobile Equipment (SIM – ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts, Part 5: Numbering system and registration procedure for application identifiers".

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

[23] ITU-T Recommendation T.50: "International Alphabet No. 5 Information technology - 7-bit coded character set for information interchange").

[24] 3GPP TS 22.101: "Service aspects; service principles".

[25] 3GPP TS 23.003: "Numbering, Addressing and Identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts, Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalisation of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile Interface Layer3 Specification, Radio Resource control protocol"

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE);Functional description; Stage 2".

[31] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode"

[32] ISO/IEC 7816-6 (1996): "Identification cards -- Integrated circuit(s) cards with contacts -- Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception"

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP)"

[37] ETSI TS 102 221 "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)"

[38] 3GPP TS 23.140: “Multimedia Messaging Service (MMS); Functional description; stage 2”.

4.2.18 EF_{AD} (Administrative Data)

This EF contains information concerning the mode of operation according to the type of USIM, such as normal (to be used by PLMN subscribers for 3G operations), type approval (to allow specific use of the ME during type approval procedures of e.g. the radio equipment), cell testing (to allow testing of a cell before commercial use of this cell), manufacturer specific (to allow the ME manufacturer to perform specific proprietary auto-test in its ME during e.g. maintenance phases).

It also provides an indication of whether some ME features should be activated during normal operation as well as information about the length of the MNC, which is part of the International Mobile Subscriber Identity (IMSI).

Identifier: '6FAD'	Structure: transparent	Mandatory
SFI: '03'		
File size: 4+X bytes	Update activity: low	

Access Conditions:

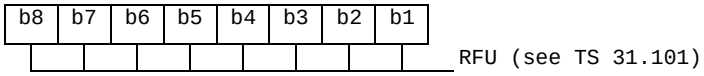
READ	ALW
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	UE operation mode	M	1 byte
2 to 3	Additional information	M	2 bytes
4	length of MNC in the IMSI	M	1 byte
5 to 4+X	RFU	O	X bytes

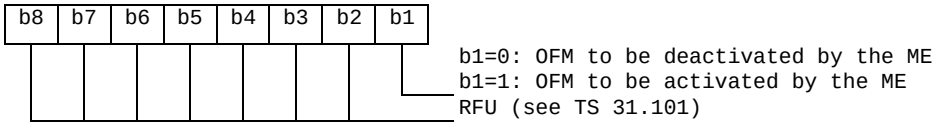
- UE operation mode:
  Contents:
  mode of operation for the UE
  Coding:
  Initial value
  - '00' normal operation.
  - '80' type approval operations.
  - '01' normal operation + specific facilities.
  - '81' type approval operations + specific facilities.
  - '02' maintenance (off line).
  - '04' cell test operation.

- Additional information:
  Coding:
  - specific facilities (if b1=1 in byte 1);

  Byte 2 (first byte of additional information):



  Byte 3:



  The OFM bit is used to control the Ciphering Indicator as specified in TS 22.101 [24].

  - ME manufacturer specific information (if b2=1 in byte 1).

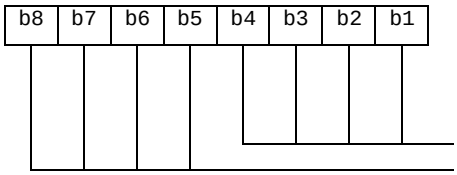
- Length of MNC in the IMSI:

Contents:

The length indicator refers to the number of digits, used for extracting the MNC from the IMSI

Coding:

Byte 4:



~~The OFM bit is used to control the Ciphering Indicator as specified in TS 02.07 [17].~~

~~ME manufacturer specific information (if b2=1 in byte 1).~~

4.4.2.3 EF_{ADN} (Abbreviated dialling numbers)

This EF contains Abbreviated Dialling Numbers (ADN) and/or Supplementary Service Control strings (SSC). In addition it contains identifiers of associated network/bearer capabilities and identifiers of extension records. It may also contain an associated alpha-tagging.

Identifier: '4FXX'	Structure: linear fixed	Conditional (see Note)
SFI: 'YY'		
Record length: X+14 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha Identifier	O	X bytes
X+1	Length of BCD number/SSC contents	M	1 byte
X+2	TON and NPI	M	1 byte
X+3 to X+12	Dialling Number/SSC String	M	10 bytes
X+13	Capability/Configuration1 Identifier	M	1 byte
X+14	Extension1 Record Identifier	M	1 byte

NOTE: This file is mandatory if and only if $DF_{PHONEBOOK}$ is present.

- Alpha Identifier.
  Contents:
  - Alpha-tagging of the associated dialling number.

  Coding:
  - this alpha-tagging shall use
    either:
    - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'.

    or:
    - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

NOTE 1: The value of X may be from zero to 241. Using the command GET RESPONSE the ME can determine the value of X.

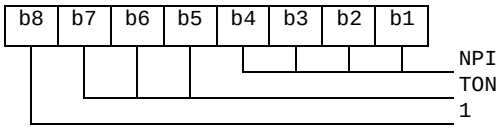
- Length of BCD number/SSC contents.
  Contents:
  - this byte gives the number of bytes of the following two data items containing actual BCD number/SSC information. This means that the maximum value is 11, even when the actual ADN/SSC information length is greater than 11. When an ADN/SSC has extension, it is indicated by the extension1 identifier being unequal to 'FF'. The remainder is stored in the EF_{EXT1} with the remaining length of the additional data being coded in the appropriate additional record itself (see clause 4.4.2.4).

  Coding:
  - according to TS 24.008 [9].

- TON and NPI.
  Contents:
  - Type of number (TON) and numbering plan identification (NPI).

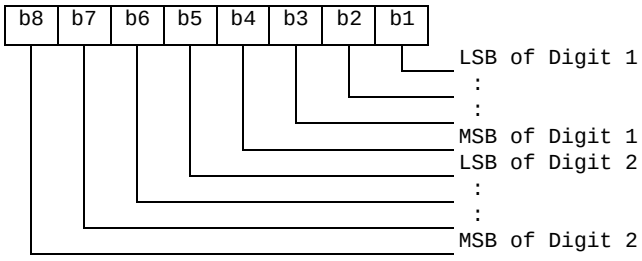
  Coding:
  - according to TS 24.008 [9]. If the Dialling Number/SSC String does not contain a dialling number, e.g. a control string deactivating a service, the TON/NPI byte shall be set to 'FF' by the ME (see note 2).

NOTE 2: If a dialling number is absent, no TON/NPI byte is transmitted over the radio interface (see TS 24.008 [9]). Accordingly, the ME should not interpret the value 'FF' and not send it over the radio interface.

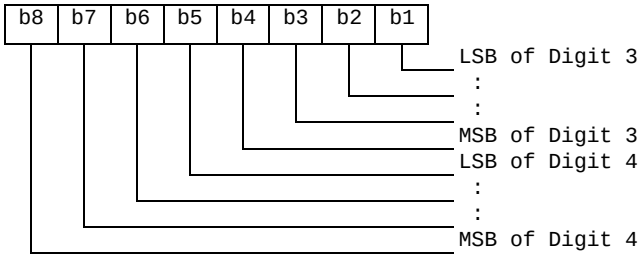


- Dialling Number/SSC String
  Contents:
  - up to 20 digits of the telephone number and/or SSC information.
  Coding:
  - according to TS 24.008 [9] , TS 22.030 [4] and the extended BCD-coding (see table 4.4). If the telephone number or SSC is longer than 20 digits, the first 20 digits are stored in this data item and the remainder is stored in an associated record in the EF_{EXT1}. The record is identified by the Extension1 Record Identifier. If ADN/SSC require less than 20 digits, excess nibbles at the end of the data item shall be set to 'F'. Where individual dialled numbers, in one or more records, of less than 20 digits share a common appended digit string the first digits are stored in this data item and the common digits stored in an associated record in the EF_{EXT1}. The record is identified by the Extension 1 Record Identifier. Excess nibbles at the end of the data item shall be set to 'F'.

Byte X+3



Byte X+4:



etc.

- Capability/Configuration1 Identifier.
  Contents:
  - capability/configuration identification byte. This byte identifies the number of a record in the EF_{CCP1} containing associated capability/configuration parameters required for the call. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  Coding:
  - binary.

- Extension1 Record Identifier.
  Contents:
  - extension1 record identification byte. This byte identifies the number of a record in the EF_{EXT1} containing an associated called party subaddress or additional data. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  - if the ADN/SSC requires both additional data and called party subaddress, this byte identifies the additional record. A chaining mechanism inside EF_{EXT1} identifies the record of the appropriate called party subaddress (see clause 4.4.2.4).
  Coding:
  - binary.

NOTE 3: EF_{ADN} in the public phone book under $DF_{TELECOM}$ may be used by USIM, GSM and also other applications in a multi-application card. If the non-GSM application does not recognise the use of Type of Number (TON) and Number Plan Identification (NPI), then the information relating to the national dialling plan shall be held within the data item dialling number/SSC and the TON and NPI fields set to UNKNOWN. This format would be acceptable for 3G operation and also for the non-GSM application where the TON and NPI fields shall be ignored.

EXAMPLE: SIM storage of an International Number using E.164 [22] numbering plan.

	TON	NPI	Digit field.
USIM application	001	0001	abc...
Other application compatible with 3G	000	0000	xxx...abc...

where "abc..." denotes the subscriber number digits (including its country code), and "xxx..." denotes escape digits or a national prefix replacing TON and NPI.

NOTE 4: When the ME acts upon the EF_{ADN} with a SEARCH RECORD command in order to identify a character string in the alpha-identifier, it is the responsibility of the ME to ensure that the number of characters used as SEARCH RECORD parameters are less than or equal to the value of X if the MMI allows the user to offer a greater number.

Table 4.4: Extended BCD coding

BCD Value	Character/Meaning
'0'	"0"
:	:
'9'	"9"
'A'	"*"
'B'	"#"
'C'	DTMF Control digit separator (~~GSM 02.07 [17]~~see TS 22.101 [24]).
'D'	"Wild" value. This will cause the MMI to prompt the user for a single digit (see ~~GSM 02.07 [17]~~TS 22.101 [24]).
'E'	RFU.
'F'	Endmark e.g. in case of an odd number of digits.

BCD values 'C', 'D' and 'E' are never sent across the radio interface.

NOTE 5: A second or subsequent 'C' BCD value will be interpreted as a 3 second PAUSE (see ~~GSM 02.07 [17]~~TS 22.101 [24]).

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030961⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **165** ⌘**rev** **-** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Removal of references to TS 02.07
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	Reference to a non-existent specification (TS 02.07)
Summary of change:	⌘	Removed TS 02.07 in the list of references. Replaced references to TS 02.07 by references to TS 22.101.
Consequences if not approved:	⌘	Inconsistency of the specification.

Clauses affected:	⌘	2, 4.2.18, 4.4.2.3

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

⌘

Other comments:	⌘	CR needs to be applied to all existing releases (R99 to Rel-6).

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC Card Requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi Level Precedence and Pre-emption service (eMLPP) - Stage 1".

[9] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-Terminal Interface, Physical and Logical Characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3GPP Security; Security Architecture".

[14] 3GPP TS 33.103: "3GPP Security; Integration Guidelines".

[15] 3GPP TS 22.086: "Advice of charge (AoC) Supplementary Services - Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast (CB)".

~~[17] 3GPP TS 02.07: "Mobile Stations (MS) features".~~Void.

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module – Mobile Equipment (SIM – ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts, Part 5: Numbering system and registration procedure for application identifiers".

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

[23] ITU-T Recommendation T.50: "International Alphabet No. 5 Information technology - 7-bit coded character set for information interchange").

[24] 3GPP TS 22.101: "Service aspects; service principles".

[25] 3GPP TS 23.003: "Numbering, Addressing and Identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts, Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalisation of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile Interface Layer3 Specification, Radio Resource control protocol"

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE);Functional description; Stage 2".

[31] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode"

[32] ISO/IEC 7816-6 (1996): "Identification cards -- Integrated circuit(s) cards with contacts -- Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception"

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP)"

[37] ETSI TS 102 221 "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)"

[38] 3GPP TS 23.140: “Multimedia Messaging Service (MMS); Functional description; stage 2”.

4.2.18 EF_{AD} (Administrative Data)

This EF contains information concerning the mode of operation according to the type of USIM, such as normal (to be used by PLMN subscribers for 3G operations), type approval (to allow specific use of the ME during type approval procedures of e.g. the radio equipment), cell testing (to allow testing of a cell before commercial use of this cell), manufacturer specific (to allow the ME manufacturer to perform specific proprietary auto-test in its ME during e.g. maintenance phases).

It also provides an indication of whether some ME features should be activated during normal operation as well as information about the length of the MNC, which is part of the International Mobile Subscriber Identity (IMSI).

Identifier: '6FAD'	Structure: transparent	Mandatory
SFI: '03'		
File size: 4+X bytes	Update activity: low	

Access Conditions:

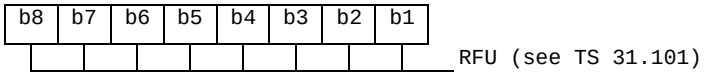
READ	ALW
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	UE operation mode	M	1 byte
2 to 3	Additional information	M	2 bytes
4	length of MNC in the IMSI	M	1 byte
5 to 4+X	RFU	O	X bytes

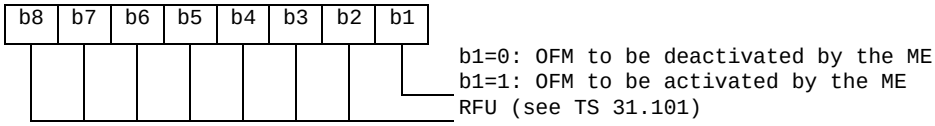
- UE operation mode:
  Contents:
  mode of operation for the UE
  Coding:
  Initial value
  - '00' normal operation.
  - '80' type approval operations.
  - '01' normal operation + specific facilities.
  - '81' type approval operations + specific facilities.
  - '02' maintenance (off line).
  - '04' cell test operation.

- Additional information:
  Coding:
  - specific facilities (if b1=1 in byte 1);

  Byte 2 (first byte of additional information):



  Byte 3:



  The OFM bit is used to control the Ciphering Indicator as specified in TS 22.101 [24].

  - ME manufacturer specific information (if b2=1 in byte 1).

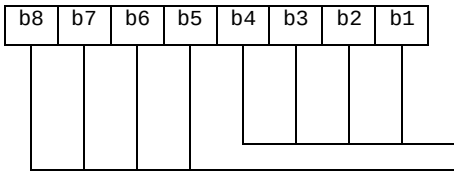
- Length of MNC in the IMSI:

Contents:

The length indicator refers to the number of digits, used for extracting the MNC from the IMSI

Coding:

Byte 4:



~~The OFM bit is used to control the Ciphering Indicator as specified in TS 02.07 [17].~~

~~ME manufacturer specific information (if b2=1 in byte 1).~~

4.4.2.3 EF_{ADN} (Abbreviated dialling numbers)

This EF contains Abbreviated Dialling Numbers (ADN) and/or Supplementary Service Control strings (SSC). In addition it contains identifiers of associated network/bearer capabilities and identifiers of extension records. It may also contain an associated alpha-tagging.

Identifier: '4FXX'	Structure: linear fixed	Conditional (see Note)
SFI: 'YY'		
Record length: X+14 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha Identifier	O	X bytes
X+1	Length of BCD number/SSC contents	M	1 byte
X+2	TON and NPI	M	1 byte
X+3 to X+12	Dialling Number/SSC String	M	10 bytes
X+13	Capability/Configuration1 Identifier	M	1 byte
X+14	Extension1 Record Identifier	M	1 byte

NOTE: This file is mandatory if and only if $DF_{PHONEBOOK}$ is present.

- Alpha Identifier.
  Contents:
  - Alpha-tagging of the associated dialling number.

  Coding:
  - this alpha-tagging shall use
    either:
    - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'.

    or:
    - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

NOTE 1: The value of X may be from zero to 241. Using the command GET RESPONSE the ME can determine the value of X.

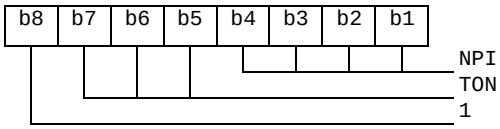
- Length of BCD number/SSC contents.
  Contents:
  - this byte gives the number of bytes of the following two data items containing actual BCD number/SSC information. This means that the maximum value is 11, even when the actual ADN/SSC information length is greater than 11. When an ADN/SSC has extension, it is indicated by the extension1 identifier being unequal to 'FF'. The remainder is stored in the EF_{EXT1} with the remaining length of the additional data being coded in the appropriate additional record itself (see clause 4.4.2.4).

  Coding:
  - according to TS 24.008 [9].

- TON and NPI.
  Contents:
  - Type of number (TON) and numbering plan identification (NPI).

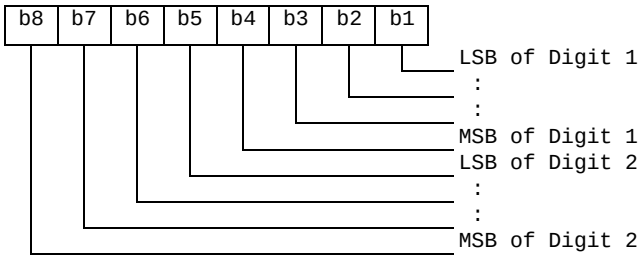
  Coding:
  - according to TS 24.008 [9]. If the Dialling Number/SSC String does not contain a dialling number, e.g. a control string deactivating a service, the TON/NPI byte shall be set to 'FF' by the ME (see note 2).

NOTE 2: If a dialling number is absent, no TON/NPI byte is transmitted over the radio interface (see TS 24.008 [9]). Accordingly, the ME should not interpret the value 'FF' and not send it over the radio interface.

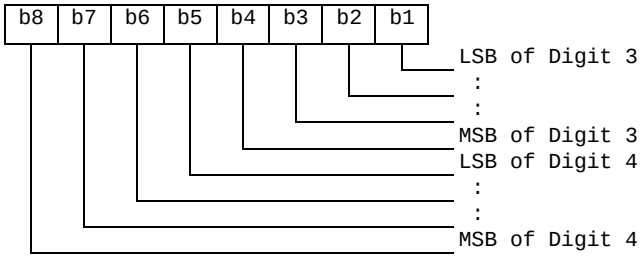


- Dialling Number/SSC String
  Contents:
  - up to 20 digits of the telephone number and/or SSC information.
  Coding:
  - according to TS 24.008 [9] , TS 22.030 [4] and the extended BCD-coding (see table 4.4). If the telephone number or SSC is longer than 20 digits, the first 20 digits are stored in this data item and the remainder is stored in an associated record in the EF_{EXT1}. The record is identified by the Extension1 Record Identifier. If ADN/SSC require less than 20 digits, excess nibbles at the end of the data item shall be set to 'F'. Where individual dialled numbers, in one or more records, of less than 20 digits share a common appended digit string the first digits are stored in this data item and the common digits stored in an associated record in the EF_{EXT1}. The record is identified by the Extension 1 Record Identifier. Excess nibbles at the end of the data item shall be set to 'F'.

Byte X+3



Byte X+4:



etc.

- Capability/Configuration1 Identifier.
  Contents:
  - capability/configuration identification byte. This byte identifies the number of a record in the EF_{CCP1} containing associated capability/configuration parameters required for the call. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  Coding:
  - binary.

- Extension1 Record Identifier.
  Contents:
  - extension1 record identification byte. This byte identifies the number of a record in the EF_{EXT1} containing an associated called party subaddress or additional data. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  - if the ADN/SSC requires both additional data and called party subaddress, this byte identifies the additional record. A chaining mechanism inside EF_{EXT1} identifies the record of the appropriate called party subaddress (see clause 4.4.2.4).
  Coding:
  - binary.

NOTE 3: EF_{ADN} in the public phone book under $DF_{TELECOM}$ may be used by USIM, GSM and also other applications in a multi-application card. If the non-GSM application does not recognise the use of Type of Number (TON) and Number Plan Identification (NPI), then the information relating to the national dialling plan shall be held within the data item dialling number/SSC and the TON and NPI fields set to UNKNOWN. This format would be acceptable for 3G operation and also for the non-GSM application where the TON and NPI fields shall be ignored.

EXAMPLE: SIM storage of an International Number using E.164 [22] numbering plan.

	TON	NPI	Digit field.
USIM application	001	0001	abc...
Other application compatible with 3G	000	0000	xxx...abc...

where "abc..." denotes the subscriber number digits (including its country code), and "xxx..." denotes escape digits or a national prefix replacing TON and NPI.

NOTE 4: When the ME acts upon the EF_{ADN} with a SEARCH RECORD command in order to identify a character string in the alpha-identifier, it is the responsibility of the ME to ensure that the number of characters used as SEARCH RECORD parameters are less than or equal to the value of X if the MMI allows the user to offer a greater number.

Table 4.4: Extended BCD coding

BCD Value	Character/Meaning
'0'	"0"
:	:
'9'	"9"
'A'	"*"
'B'	"#"
'C'	DTMF Control digit separator (~~GSM 02.07 [17]~~see TS 22.101 [24]).
'D'	"Wild" value. This will cause the MMI to prompt the user for a single digit (see ~~GSM 02.07 [17]~~TS 22.101 [24]).
'E'	RFU.
'F'	Endmark e.g. in case of an odd number of digits.

BCD values 'C', 'D' and 'E' are never sent across the radio interface.

NOTE 5: A second or subsequent 'C' BCD value will be interpreted as a 3 second PAUSE (see ~~GSM 02.07 [17]~~TS 22.101 [24]).

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030962⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **166** ⌘**rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Removal of references to TS 02.07
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	Reference to a non-existent specification (TS 02.07)
Summary of change:	⌘	Removed TS 02.07 in the list of references. Replaced references to TS 02.07 by references to TS 22.101.
Consequences if not approved:	⌘	Inconsistency of the specification.

Clauses affected:	⌘	2, 4.2.18, 4.4.2.3

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

⌘

Other comments:	⌘	CR needs to be applied to all existing releases (R99 to Rel-6).

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC Card Requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi Level Precedence and Pre-emption service (eMLPP) - Stage 1".

[9] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-Terminal Interface, Physical and Logical Characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3GPP Security; Security Architecture".

[14] 3GPP TS 33.103: "3GPP Security; Integration Guidelines".

[15] 3GPP TS 22.086: "Advice of charge (AoC) Supplementary Services - Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast (CB)".

[17] 3GPP TS 02.07: "Mobile Stations (MS) features".

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module – Mobile Equipment (SIM – ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts, Part 5: Numbering system and registration procedure for application identifiers".

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

[23] ~~v~~Void.

[24] ~~3GPP TS 22.101: "Service aspects; service principles".~~Void.

[25] 3GPP TS 23.003: "Numbering, Addressing and Identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts, Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalisation of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile Interface Layer3 Specification, Radio Resource control protocol"

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE);Functional description; Stage 2".

[31] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode"

[32] ISO/IEC 7816-6 (1996): "Identification cards -- Integrated circuit(s) cards with contacts -- Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception"

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP)"

[37] ETSI TS 102 221 "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)"

[38] 3GPP TS 23.140: “Multimedia Messaging Service (MMS); Functional description; stage 2”.

4.2.18 EF_{AD} (Administrative Data)

This EF contains information concerning the mode of operation according to the type of USIM, such as normal (to be used by PLMN subscribers for 3G operations), type approval (to allow specific use of the ME during type approval procedures of e.g. the radio equipment), cell testing (to allow testing of a cell before commercial use of this cell), manufacturer specific (to allow the ME manufacturer to perform specific proprietary auto-test in its ME during e.g. maintenance phases).

It also provides an indication of whether some ME features should be activated during normal operation as well as information about the length of the MNC, which is part of the International Mobile Subscriber Identity (IMSI).

Identifier: '6FAD'	Structure: transparent	Mandatory
SFI: '03'		
File size: 4+X bytes	Update activity: low	

Access Conditions:

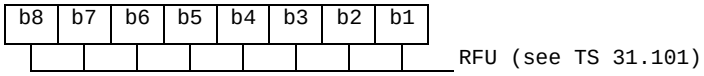
READ	ALW
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	UE operation mode	M	1 byte
2 to 3	Additional information	M	2 bytes
4	length of MNC in the IMSI	M	1 byte
5 to 4+X	RFU	O	X bytes

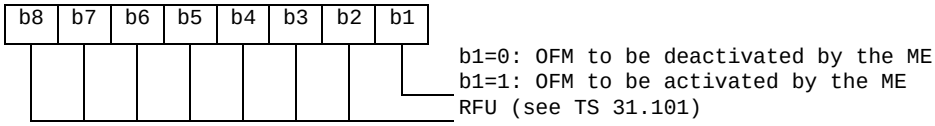
- UE operation mode:
  Contents:
  mode of operation for the UE
  Coding:
  Initial value
  - '00' normal operation.
  - '80' type approval operations.
  - '01' normal operation + specific facilities.
  - '81' type approval operations + specific facilities.
  - '02' maintenance (off line).
  - '04' cell test operation.

- Additional information:
  Coding:
  - specific facilities (if b1=1 in byte 1);

  Byte 2 (first byte of additional information):



  Byte 3:



  The OFM bit is used to control the Ciphering Indicator as specified in TS 22.101 [24].

  - ME manufacturer specific information (if b2=1 in byte 1).

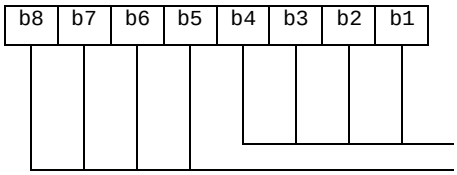
- Length of MNC in the IMSI:

Contents:

The length indicator refers to the number of digits, used for extracting the MNC from the IMSI

Coding:

Byte 4:



This value codes the number of digits of the MNC in the IMSI. Only the values '0010' and '0011' are currently specified, all other values are reserved for future use.
RFU (see TS 31.101)

~~The OFM bit is used to control the Ciphering Indicator as specified in TS 02.07 [17].~~

~~ME manufacturer specific information (if b2=1 in byte 1).~~

4.4.2.3 EF_{ADN} (Abbreviated dialling numbers)

This EF contains Abbreviated Dialling Numbers (ADN) and/or Supplementary Service Control strings (SSC). In addition it contains identifiers of associated network/bearer capabilities and identifiers of extension records. It may also contain an associated alpha-tagging.

Identifier: '4FXX'	Structure: linear fixed	Conditional (see Note)
SFI: 'YY'		
Record length: X+14 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1 to X	Alpha Identifier	O	X bytes
X+1	Length of BCD number/SSC contents	M	1 byte
X+2	TON and NPI	M	1 byte
X+3 to X+12	Dialling Number/SSC String	M	10 bytes
X+13	Capability/Configuration1 Identifier	M	1 byte
X+14	Extension1 Record Identifier	M	1 byte

NOTE: This file is mandatory if and only if $DF_{PHONEBOOK}$ is present.

- Alpha Identifier.
  Contents:
  - Alpha-tagging of the associated dialling number.

  Coding:
  - this alpha-tagging shall use
    either:
    - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'.

    or:
    - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

NOTE 1: The value of X may be from zero to 241. Using the command GET RESPONSE the ME can determine the value of X.

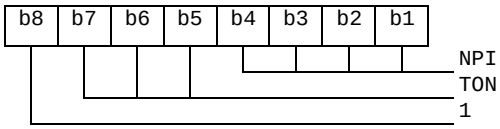
- Length of BCD number/SSC contents.
  Contents:
  - this byte gives the number of bytes of the following two data items containing actual BCD number/SSC information. This means that the maximum value is 11, even when the actual ADN/SSC information length is greater than 11. When an ADN/SSC has extension, it is indicated by the extension1 identifier being unequal to 'FF'. The remainder is stored in the EF_{EXT1} with the remaining length of the additional data being coded in the appropriate additional record itself (see clause 4.4.2.4).

  Coding:
  - according to TS 24.008 [9].

- TON and NPI.
  Contents:
  - Type of number (TON) and numbering plan identification (NPI).

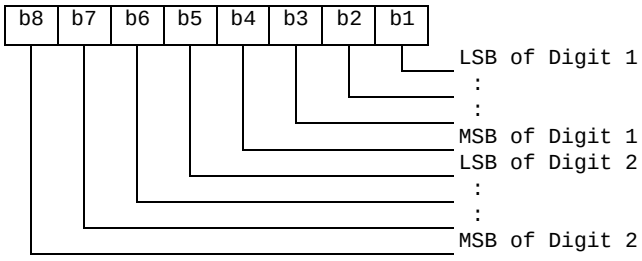
  Coding:
  - according to TS 24.008 [9]. If the Dialling Number/SSC String does not contain a dialling number, e.g. a control string deactivating a service, the TON/NPI byte shall be set to 'FF' by the ME (see note 2).

NOTE 2: If a dialling number is absent, no TON/NPI byte is transmitted over the radio interface (see TS 24.008 [9]). Accordingly, the ME should not interpret the value 'FF' and not send it over the radio interface.

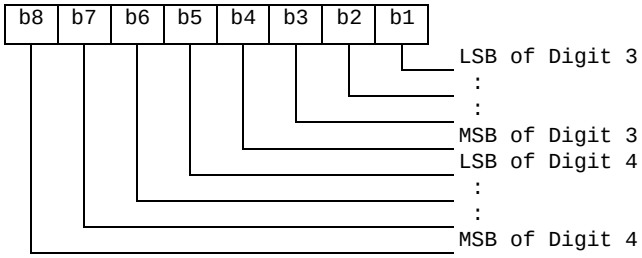


- Dialling Number/SSC String
  Contents:
  - up to 20 digits of the telephone number and/or SSC information.
  Coding:
  - according to TS 24.008 [9] , TS 22.030 [4] and the extended BCD-coding (see table 4.4). If the telephone number or SSC is longer than 20 digits, the first 20 digits are stored in this data item and the remainder is stored in an associated record in the EF_{EXT1}. The record is identified by the Extension1 Record Identifier. If ADN/SSC require less than 20 digits, excess nibbles at the end of the data item shall be set to 'F'. Where individual dialled numbers, in one or more records, of less than 20 digits share a common appended digit string the first digits are stored in this data item and the common digits stored in an associated record in the EF_{EXT1}. The record is identified by the Extension 1 Record Identifier. Excess nibbles at the end of the data item shall be set to 'F'.

Byte X+3



Byte X+4:



etc.

- Capability/Configuration1 Identifier.
  Contents:
  - capability/configuration identification byte. This byte identifies the number of a record in the EF_{CCP1} containing associated capability/configuration parameters required for the call. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  Coding:
  - binary.

- Extension1 Record Identifier.
  Contents:
  - extension1 record identification byte. This byte identifies the number of a record in the EF_{EXT1} containing an associated called party subaddress or additional data. The use of this byte is optional. If it is not used it shall be set to 'FF'.
  - if the ADN/SSC requires both additional data and called party subaddress, this byte identifies the additional record. A chaining mechanism inside EF_{EXT1} identifies the record of the appropriate called party subaddress (see clause 4.4.2.4).
  Coding:
  - binary.

NOTE 3: EF_{ADN} in the public phone book under $DF_{TELECOM}$ may be used by USIM, GSM and also other applications in a multi-application card. If the non-GSM application does not recognise the use of Type of Number (TON) and Number Plan Identification (NPI), then the information relating to the national dialling plan shall be held within the data item dialling number/SSC and the TON and NPI fields set to UNKNOWN. This format would be acceptable for 3G operation and also for the non-GSM application where the TON and NPI fields shall be ignored.

EXAMPLE: SIM storage of an International Number using E.164 [22] numbering plan.

	TON	NPI	Digit field.
USIM application	001	0001	abc...
Other application compatible with 3G	000	0000	xxx...abc...

where "abc..." denotes the subscriber number digits (including its country code), and "xxx..." denotes escape digits or a national prefix replacing TON and NPI.

NOTE 4: When the ME acts upon the EF_{ADN} with a SEARCH RECORD command in order to identify a character string in the alpha-identifier, it is the responsibility of the ME to ensure that the number of characters used as SEARCH RECORD parameters are less than or equal to the value of X if the MMI allows the user to offer a greater number.

Table 4.4: Extended BCD coding

BCD Value	Character/Meaning
'0'	"0"
:	:
'9'	"9"
'A'	"*"
'B'	"#"
'C'	DTMF Control digit separator (~~GSM 02.07 [17]~~see TS 22.101 [24]).
'D'	"Wild" value. This will cause the MMI to prompt the user for a single digit (see ~~GSM 02.07 [17]~~TS 22.101 [24]).
'E'	RFU.
'F'	Endmark e.g. in case of an odd number of digits.

BCD values 'C', 'D' and 'E' are never sent across the radio interface.

NOTE 5: A second or subsequent 'C' BCD value will be interpreted as a 3 second PAUSE (see ~~GSM 02.07 [17]~~TS 22.101 [24]).

3GPP TSG T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-030947

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **167** ⌘ **rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Correction of T=0 protocol parameters
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	There is a discrepancy between the T=0 protocol timing between TS 31.102 and TS 11.11/TS 51.011
Summary of change:	⌘	A health warning has been added to the specifications in order to draw the attention that the timing has been changed in the core specification with respect to previous versions for this release
Consequences if not approved:	⌘	Discrepancy between the T=0 timing definitions between 31.102 and TS 11.11/TS 51.011 will persist causing potential problems in the future

Clauses affected:	⌘	8.3

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

Other comments:	⌘	

8.3 Interface protocol

No extra guard time, indicated in TC1 in the ATR, needs to be supported when sending characters from the terminal to the card. The terminal may reject a UICC indicating values other than 0 or 255 in TC1.

The T=0 protocol timing is designed according to TS 11.11 [18]. However it is recommended that the time between the start bit of the last character received by the UICC/terminal and the start bit of the first character sent in opposite direction for T=0 of 16 etu is respected by the terminal/UICC.

NOTE : In previous versions of this release a value for the time between the start bit of the last character received by the UICC or the terminal and the start bit of the first character sent in opposite direction for T=0 has been referenced to as 16 etu.

3GPP TSG T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-030979

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **168** ⌘ **rev** **-** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Correction of T=0 protocol parameters
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	There is a descrepancy between the T=0 protocol timing between TS 31.102 and TS 11.11/TS 51.011
Summary of change:	⌘	A health warning has been added to the specifications in order to draw the attention that the timing has been changed in the core specification with respect to previous versions for this release
Consequences if not approved:	⌘	Descrepancy between the T=0 timing definitions between 31.102 and TS 11.11/TS 51.011 will persist causing potential problems in the future

Clauses affected:	⌘	8.4

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

Other comments: ⌘

How to create CRs using this form:
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.

8.4 Interface protocol

No extra guard time, indicated in TC1 in the ATR, needs to be supported when sending characters from the terminal to the card. The terminal may reject a UICC indicating values other than 0 or 255 in TC1.

The T=0 protocol timing is designed according to TS 51.011 [18]. However it is recommended that the time between the start bit of the last character received by the UICC/terminal and the start bit of the first character sent in opposite direction for T=0 of 16 etu is respected by the terminal/UICC.

NOTE : In previous versions of this release a value for the time between the start bit of the last character received by the UICC or the terminal and the start bit of the first character sent in opposite direction for T=0 has been referenced to as 16 etu.

3GPP TSG T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-030982

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **169** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Correction of T=0 protocol parameters
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	There is a descrepancy between the T=0 protocol timing between TS 31.102 and TS 11.11/TS 51.011
Summary of change:	⌘	A health warning has been added to the specifications in order to draw the attention that the timing has been changed in the core specification with respect to previous versions for this release
Consequences if not approved:	⌘	Descrepancy between the T=0 timing definitions between 31.102 and TS 11.11/TS 51.011 will persist causing potential problems in the future

Clauses affected:	⌘	8.4

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

Other comments:	⌘	

How to create CRs using this form:
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.

8.4 Interface protocol

No extra guard time, indicated in TC1 in the ATR, needs to be supported when sending characters from the terminal to the card. The terminal may reject a UICC indicating values other than 0 or 255 in TC1.

NOTE : In previous versions of this release a value for the time between the start bit of the last character received by the UICC or the terminal and the start bit of the first character sent in opposite direction for T=0 has been referenced to as 16 etu.

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030989⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 170 ⌘**rev** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM / NIA
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the support of Network's Indication of Alerting (NIA), which had its specific file under in TS 51.011.
Summary of change:	⌘	Add NIA support to USIM Service Table (UST) Add EF_{NIA} under ADFusim to have a similar content as EF_{NIA} under DF_{GSM} specified in TS 11.11/51.011 Add the EF_{NIA} to the graphical representation of the file system. Add the procedure for Network's Indication of Alerting (NIA), Add EF change via OTA data download. Add the suggested content at personalisation in Annex D.
Consequences if not approved:	⌘	NIA service not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.2.XX (new section), 4.7, 5.3.XX (new section), Annex A, Annex E

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

Other comments:	⌘	2 other CRs are raised for the SIM files related to ASCI and SoLSA

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°55	MMS User Connectivity Parameters
	Service n°XX	Network's indication of alerting in the MS (NIA)

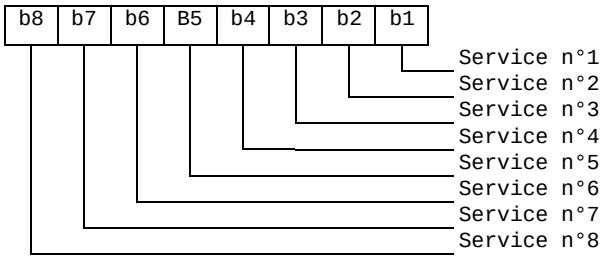
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

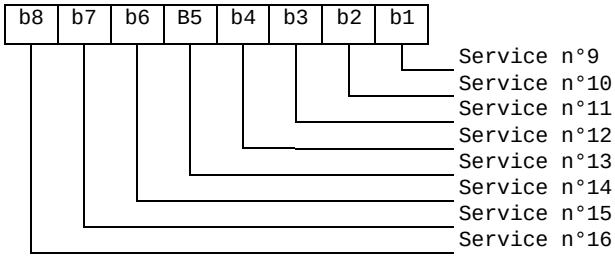
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

4.2.XX EF_{NIA} (Network's Indication of Alerting)

This EF contains categories and associated text related to the Network's indication of alerting in the MS service defined in TS 22.101 [24].

Identifier: '6FXX'	Structure: linear fixed	Optional
Record length : X+1 bytes	Update activity: low	
Access Conditions: READ PIN UPDATE ADM INVALIDATE ADM REHABILITATE ADM		

Bytes	Description	M/O	Length
1	Alerting category	M	1 byte
2 to X+1	Informative text	M	X bytes

- Alerting category

  Contents:

  category of alerting for terminating traffic.

  Coding:

  according to TS 24.008 [9]. Value 'FF' means that no information on alerting category is available.

- Informative text

  Contents:

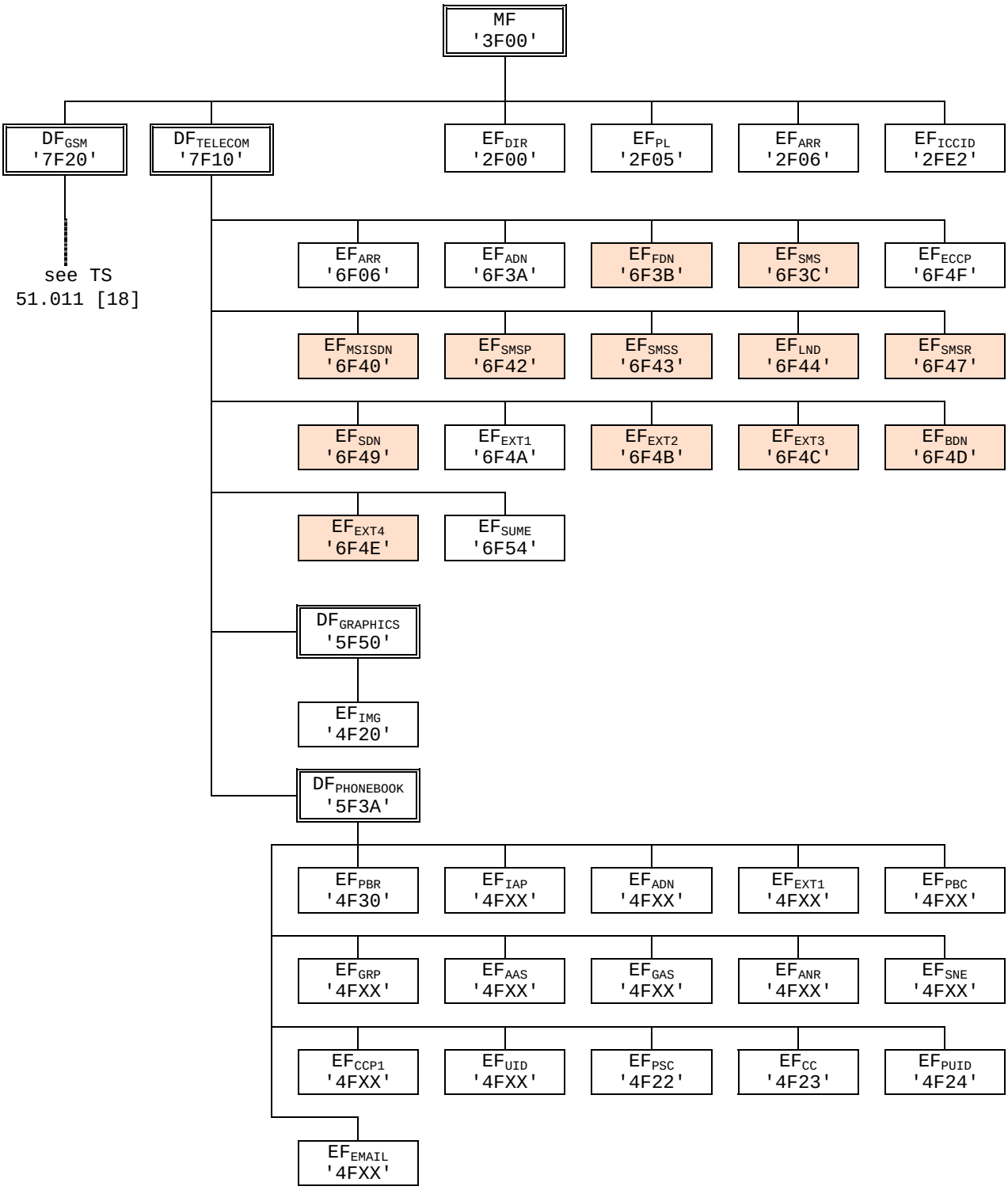
  text describing the type of terminating traffic associated with the category.

  Coding:

  see the coding of the Alpha Identifier item of the EF_{ADN}. The maximum number of characters for this informative text is indicated in TS 22.101 [24].

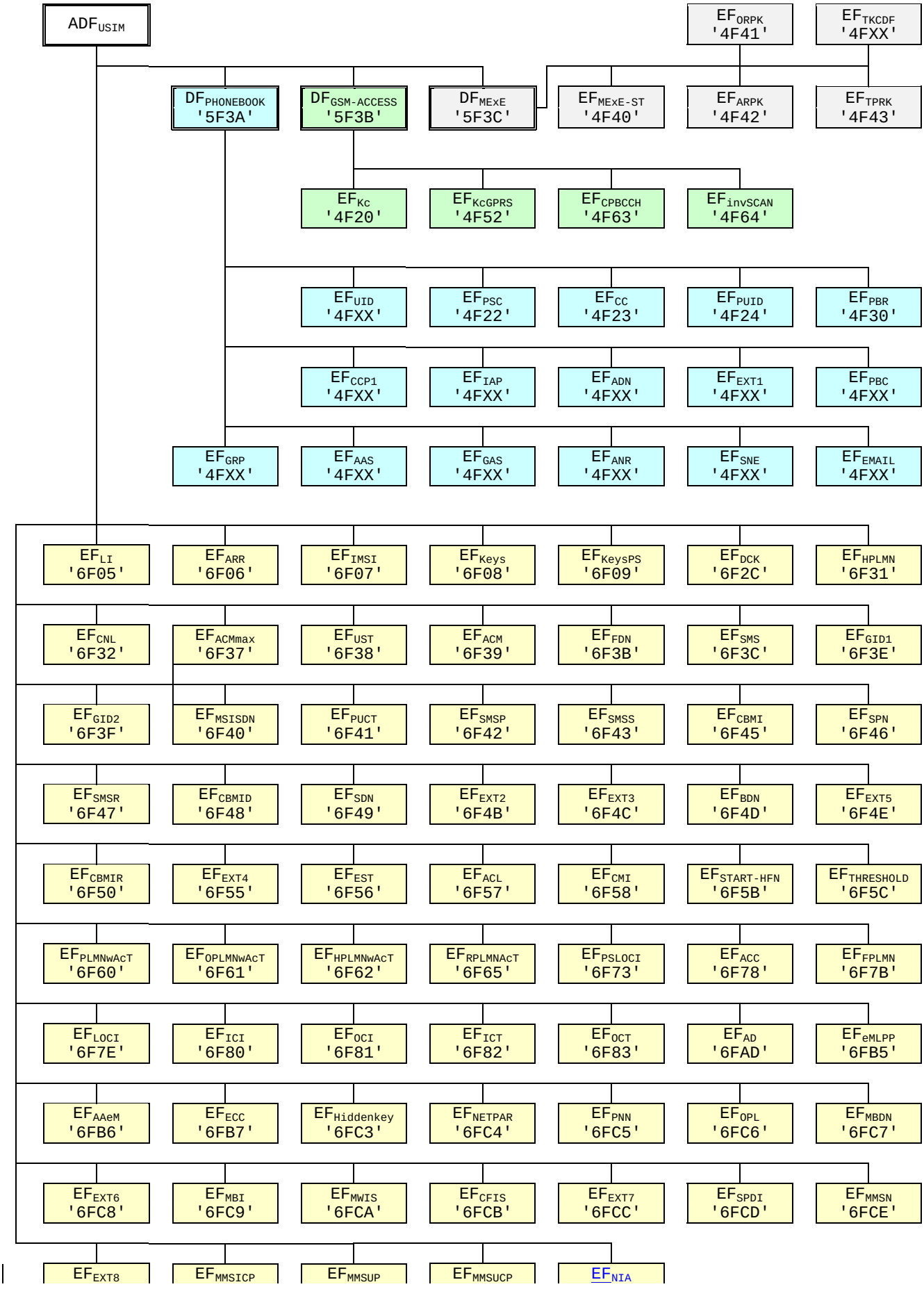
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC



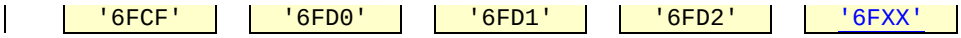


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.3.XX Network's indication of alerting

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

Request: The ME performs the reading procedure with EF_{NIA}.

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	
'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
'6F55'	Extension 4	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
'6FXX'	Network's indication of alerting (NIA)	Caution

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'
'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	'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'
'6FXX'	Network's Indication of Alerting (NIA)	'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 TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030990⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 171 ⌘**rev** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM / NIA
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the support of Network's Indication of Alerting (NIA), which had its specific file under in TS 51.011.
Summary of change:	⌘	Add NIA support to USIM Service Table (UST) Add EF_{NIA} under ADFusim to have a similar content as EF_{NIA} under DF_{GSM} specified in TS 11.11/51.011 Add the EF_{NIA} to the graphical representation of the file system. Add the procedure for Network's Indication of Alerting (NIA), Add EF change via OTA data download. Add the suggested content at personalisation in Annex D.
Consequences if not approved:	⌘	NIA service not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.2.XX (new section), 4.7, 5.3.XX (new section), Annex A, Annex E

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

Other comments:	⌘	2 other CRs are raised for the SIM files related to ASCI and SoLSA

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°55	MMS User Connectivity Parameters
	Service n°XX	Network's indication of alerting in the MS (NIA)

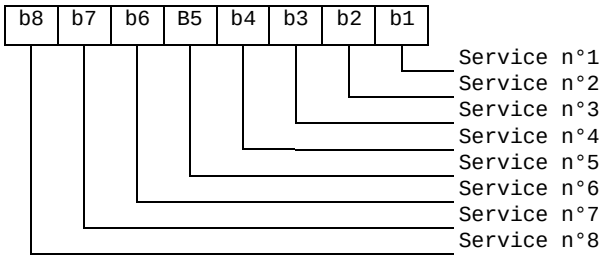
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

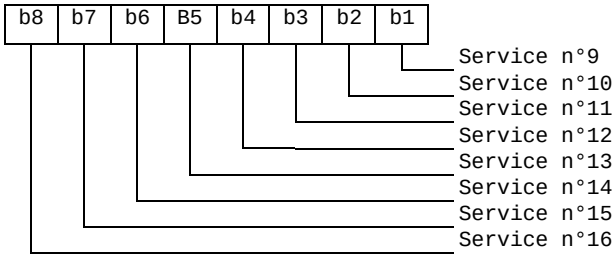
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

4.2.XX EF_{NIA} (Network's Indication of Alerting)

This EF contains categories and associated text related to the Network's indication of alerting in the MS service defined in TS 22.101 [24].

Identifier: '6FXX'	Structure: linear fixed	Optional
Record length : X+1 bytes	Update activity: low	
Access Conditions: READ PIN UPDATE ADM INVALIDATE ADM REHABILITATE ADM		

Bytes	Description	M/O	Length
1	Alerting category	M	1 byte
2 to X+1	Informative text	M	X bytes

- Alerting category

  Contents:

  category of alerting for terminating traffic.

  Coding:

  according to TS 24.008 [9]. Value 'FF' means that no information on alerting category is available.

- Informative text

  Contents:

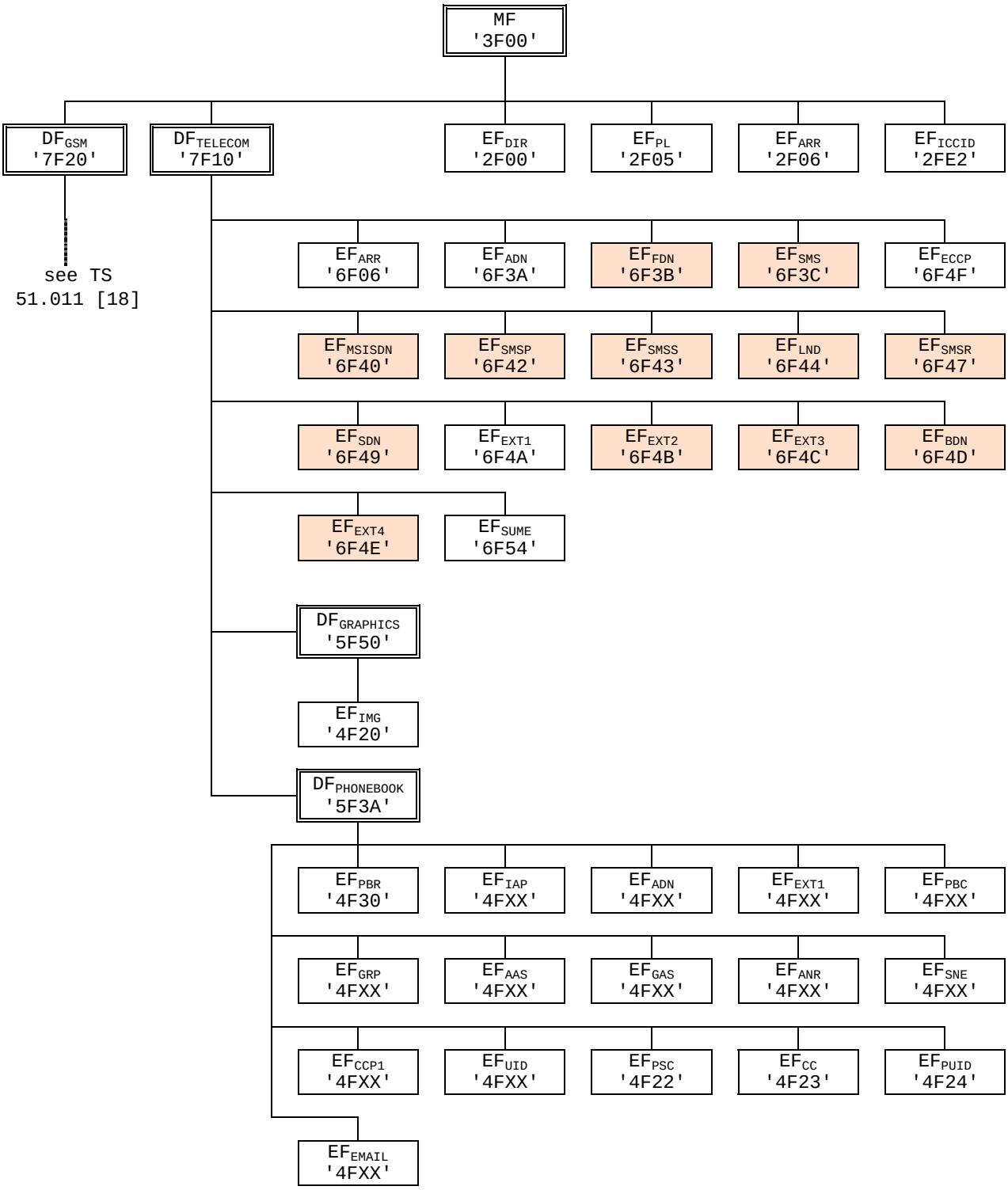
  text describing the type of terminating traffic associated with the category.

  Coding:

  see the coding of the Alpha Identifier item of the EF_{ADN}. The maximum number of characters for this informative text is indicated in TS 22.101 [24].

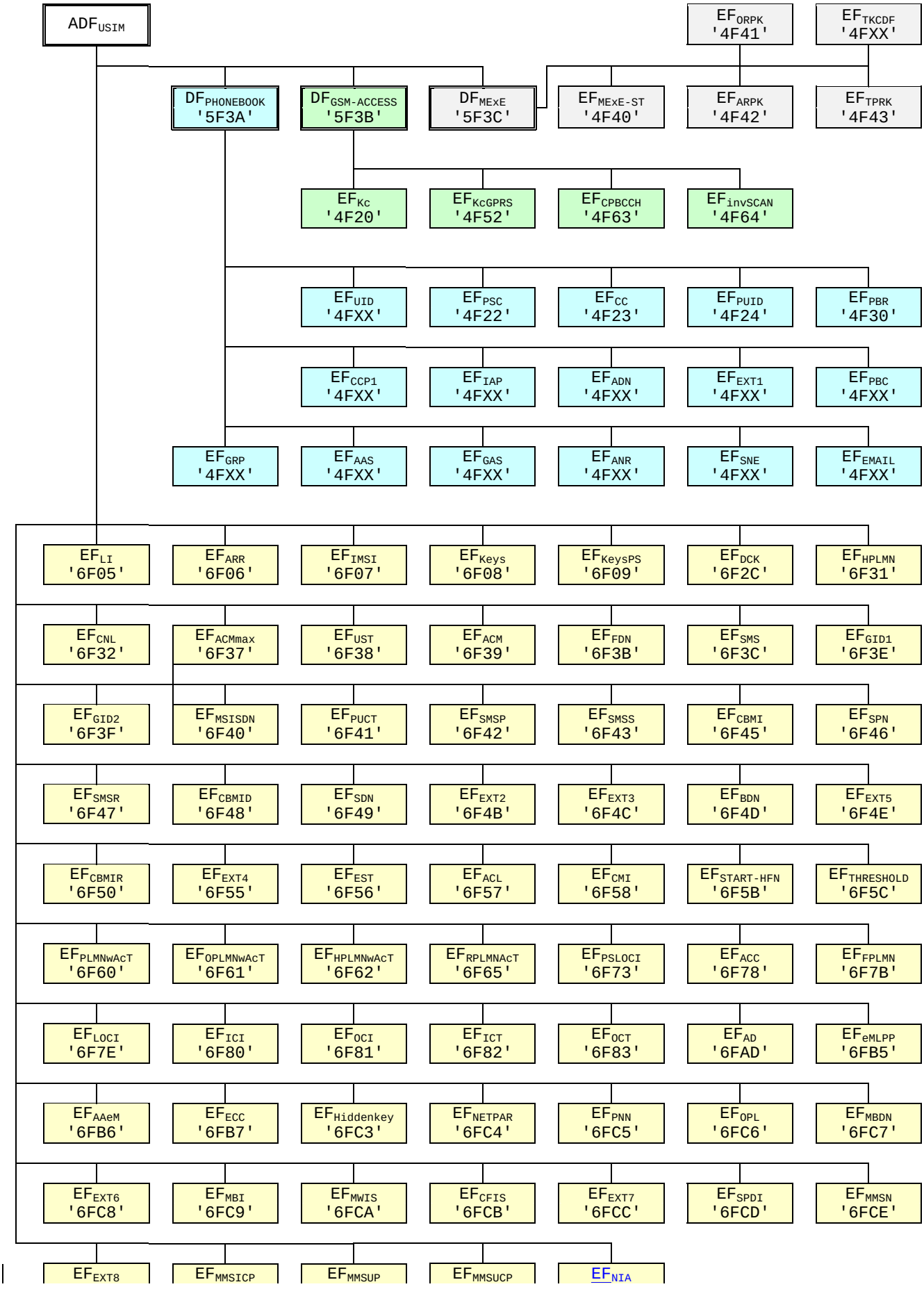
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC



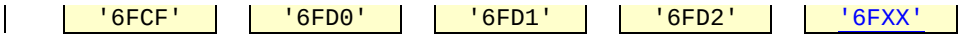


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.3.XX Network's indication of alerting

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

Request: The ME performs the reading procedure with EF_{NIA}.

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	
'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
'6F55'	Extension 4	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
'6FXX'	Network's indication of alerting (NIA)	Caution

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'
'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	'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'
'6FXX'	Network's Indication of Alerting (NIA)	'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 TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030991 ⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 172 ⌘ **rev** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM / NIA
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the support of Network's Indication of Alerting (NIA), which had its specific file under in TS 51.011.
Summary of change:	⌘	Add NIA support to USIM Service Table (UST) Add EF_{NIA} under ADFusim to have a similar content as EF_{NIA} under DF_{GSM} specified in TS 11.11/51.011 Add the EF_{NIA} to the graphical representation of the file system. Add the procedure for Network's Indication of Alerting (NIA), Add EF change via OTA data download. Add the suggested content at personalisation in Annex D.
Consequences if not approved:	⌘	NIA service not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.2.XX (new section), 4.7, 5.3.XX (new section), Annex A, Annex E

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

Other comments:	⌘	2 other CRs are raised for the SIM files related to ASCI and SoLSA

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°55	MMS User Connectivity Parameters
	Service n°XX	Network's indication of alerting in the MS (NIA)

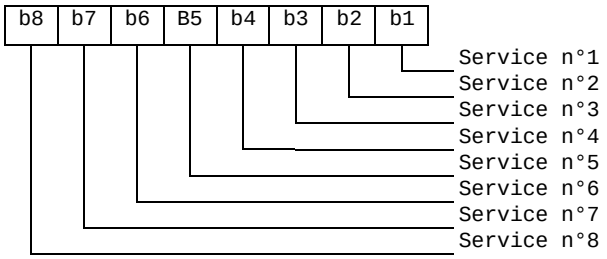
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

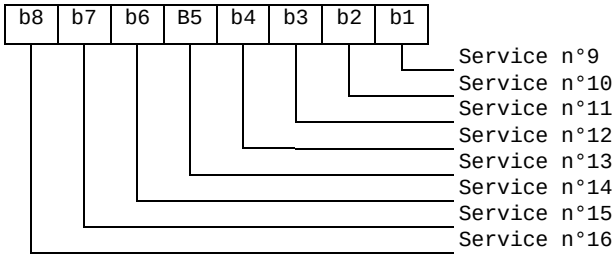
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

4.2.XX EF_{NIA} (Network's Indication of Alerting)

This EF contains categories and associated text related to the Network's indication of alerting in the MS service defined in TS 22.101 [24].

Identifier: '6FXX'	Structure: linear fixed	Optional
Record length : X+1 bytes	Update activity: low	
Access Conditions: READ PIN UPDATE ADM INVALIDATE ADM REHABILITATE ADM		

Bytes	Description	M/O	Length
1	Alerting category	M	1 byte
2 to X+1	Informative text	M	X bytes

- Alerting category

  Contents:

  category of alerting for terminating traffic.

  Coding:

  according to TS 24.008 [9]. Value 'FF' means that no information on alerting category is available.

- Informative text

  Contents:

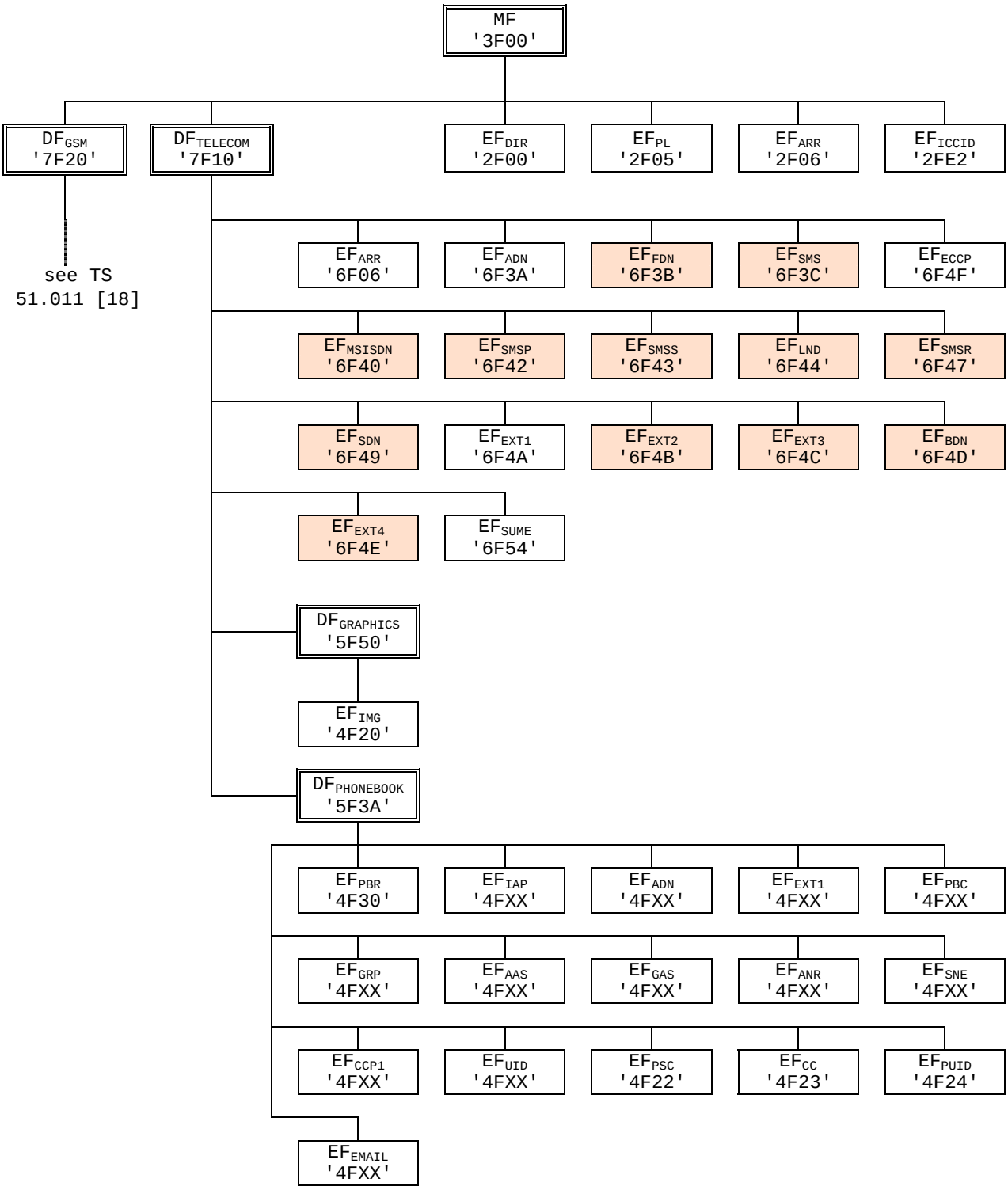
  text describing the type of terminating traffic associated with the category.

  Coding:

  see the coding of the Alpha Identifier item of the EF_{ADN}. The maximum number of characters for this informative text is indicated in TS 22.101 [24].

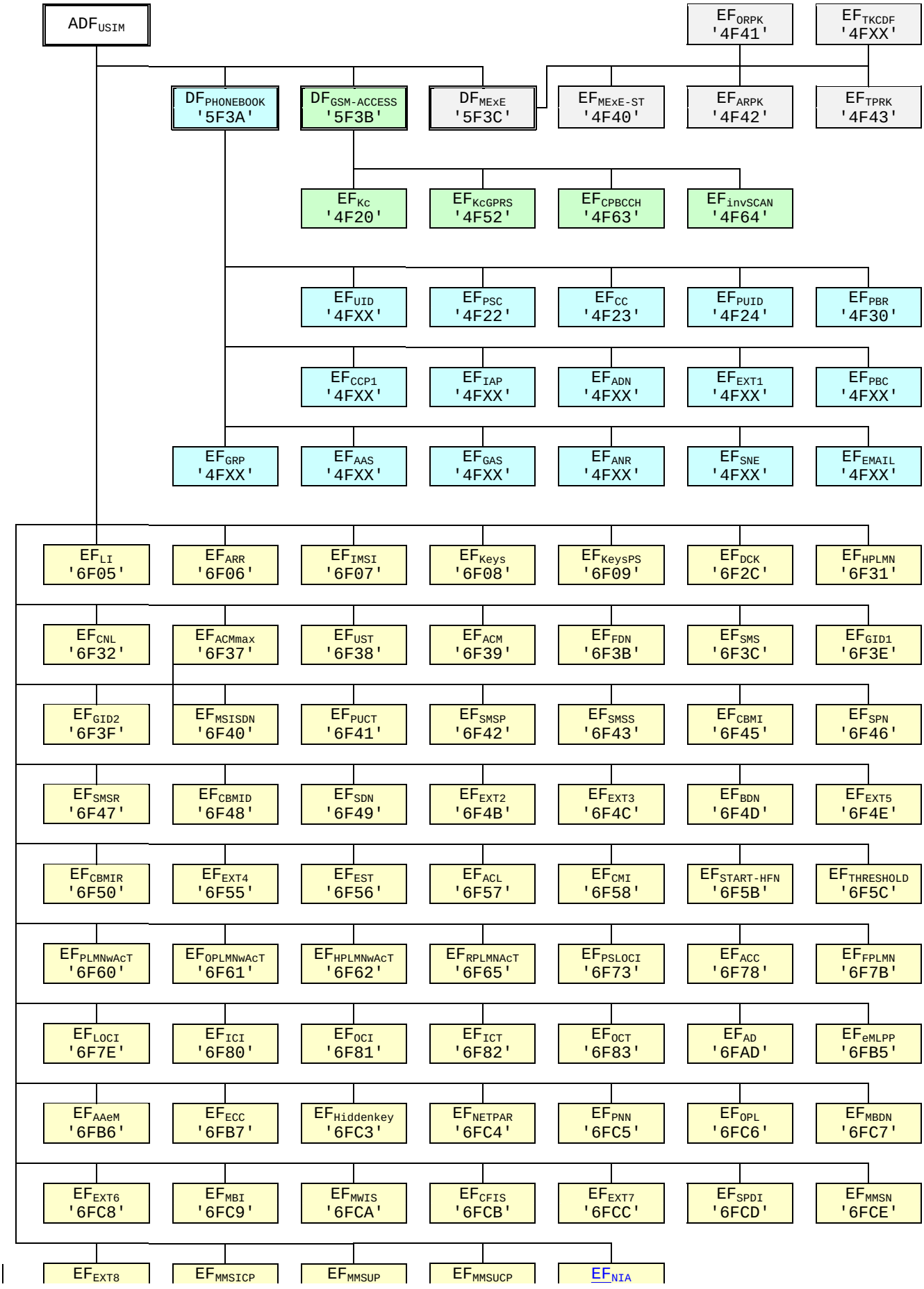
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC



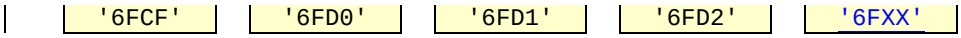


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.3.XX Network's indication of alerting

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

Request: The ME performs the reading procedure with EF_{NIA}.

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	
'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
'6F55'	Extension 4	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
'6FXX'	Network's indication of alerting (NIA)	Caution

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'
'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	'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'
'6FXX'	Network's Indication of Alerting (NIA)	'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 TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

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CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 173 ⌘**rev** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM / NIA
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the support of Network's Indication of Alerting (NIA), which had its specific file under in TS 51.011.
Summary of change:	⌘	Add NIA support to USIM Service Table (UST) Add EF_{NIA} under ADFusim to have a similar content as EF_{NIA} under DF_{GSM} specified in TS 11.11/51.011 Add the EF_{NIA} to the graphical representation of the file system. Add the procedure for Network's Indication of Alerting (NIA), Add EF change via OTA data download. Add the suggested content at personalisation in Annex D.
Consequences if not approved:	⌘	NIA service not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.2.XX (new section), 4.7, 5.3.XX (new section), Annex A, Annex E

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

Other comments:	⌘	2 other CRs are raised for the SIM files related to ASCI and SoLSA

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°55	MMS User Connectivity Parameters
	Service n°XX	Network's indication of alerting in the MS (NIA)

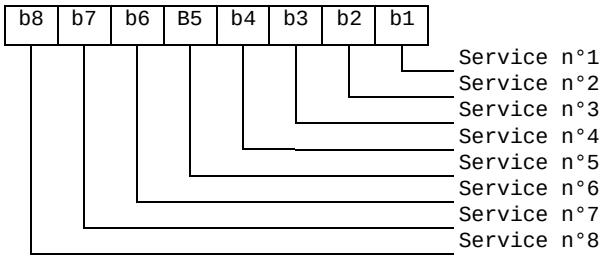
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

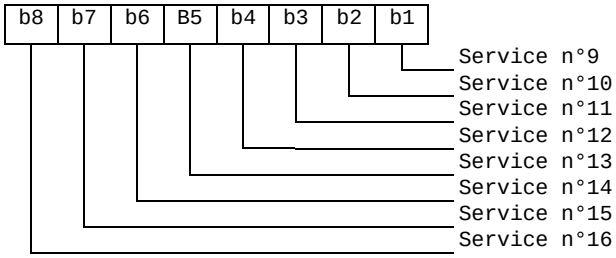
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

4.2.XX EF_{NIA} (Network's Indication of Alerting)

This EF contains categories and associated text related to the Network's indication of alerting in the MS service defined in TS 22.101 [24].

Identifier: '6FXX'	Structure: linear fixed	Optional
Record length : X+1 bytes	Update activity: low	
Access Conditions: READ PIN UPDATE ADM INVALIDATE ADM REHABILITATE ADM		

Bytes	Description	M/O	Length
1	Alerting category	M	1 byte
2 to X+1	Informative text	M	X bytes

- Alerting category

  Contents:

  category of alerting for terminating traffic.

  Coding:

  according to TS 24.008 [9]. Value 'FF' means that no information on alerting category is available.

- Informative text

  Contents:

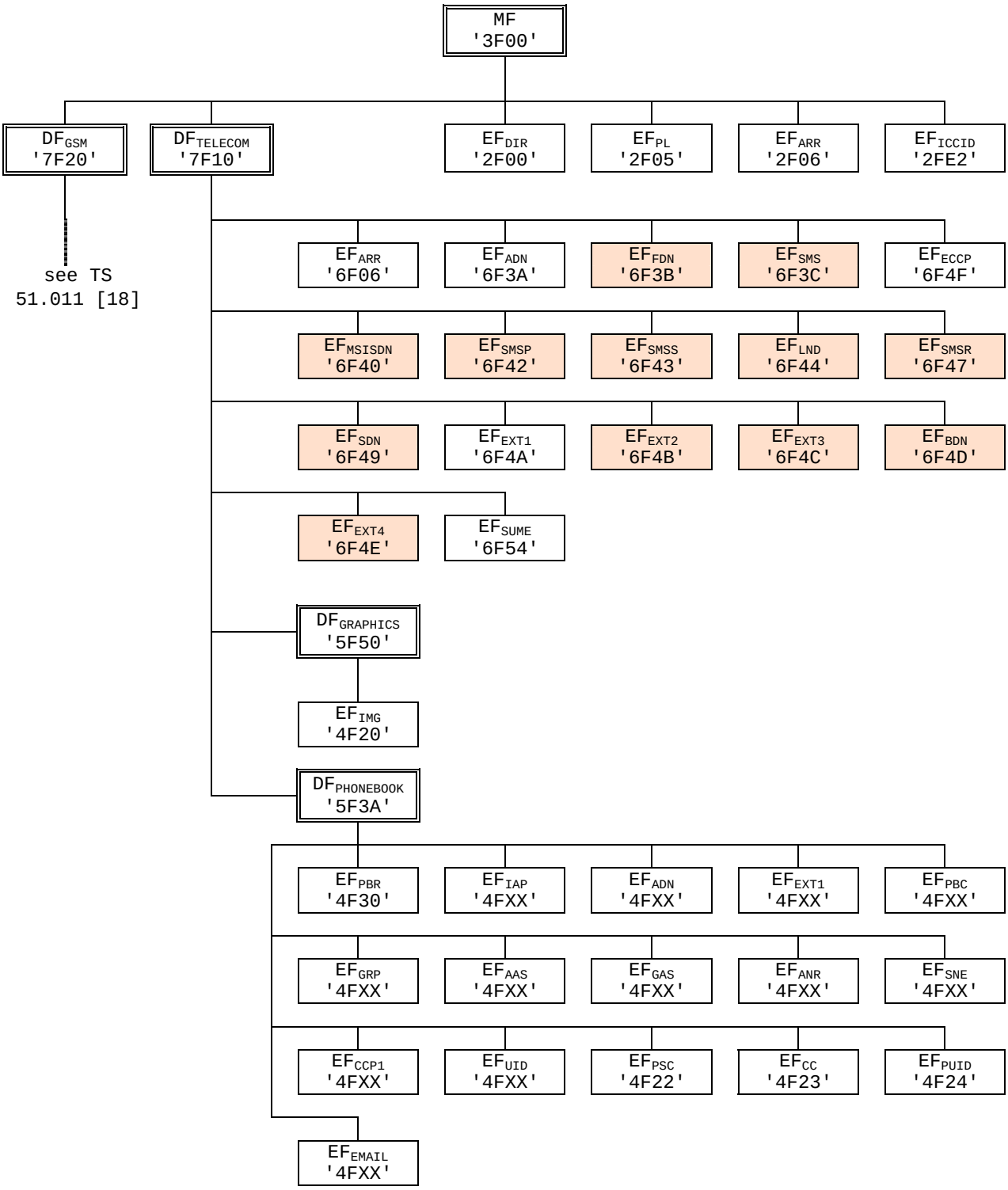
  text describing the type of terminating traffic associated with the category.

  Coding:

  see the coding of the Alpha Identifier item of the EF_{ADN}. The maximum number of characters for this informative text is indicated in TS 22.101 [24].

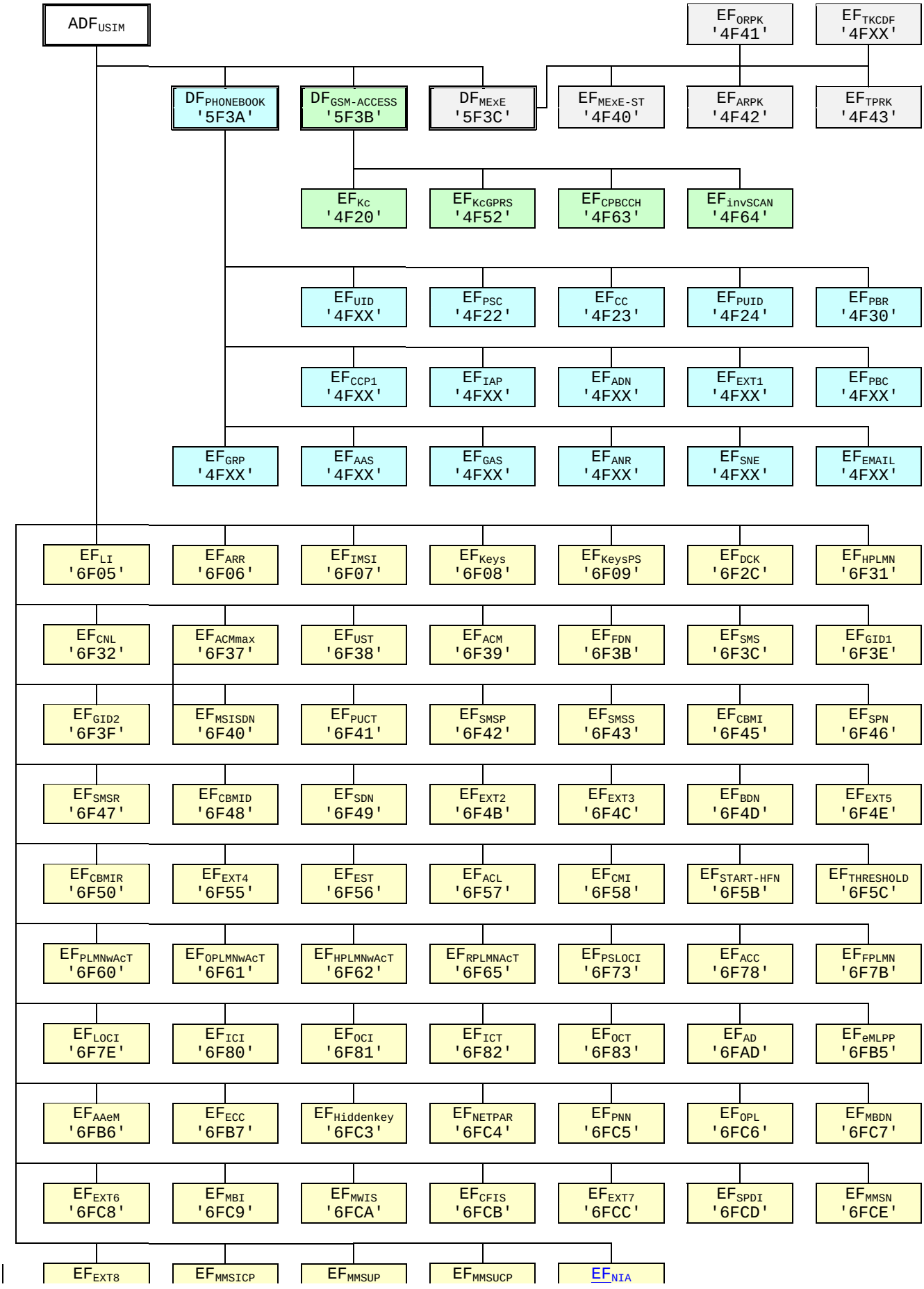
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC



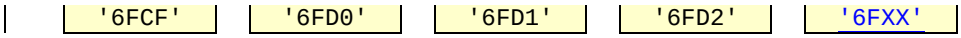


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.3.XX Network's indication of alerting

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

Request: The ME performs the reading procedure with EF_{NIA}.

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	
'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
'6F55'	Extension 4	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
'6FXX'	Network's indication of alerting (NIA)	Caution

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'
'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	'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'
'6FXX'	Network's Indication of Alerting (NIA)	'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 TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030993⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 174 ⌘**rev** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – SoLSA Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the Support of Localised Service Areas, which had its specific directory under DFgsm in TS 51.011.
Summary of change:	⌘	Add Solsa support to USIM Service Table (UST) Add DFsolsa under ADFusim to have a similar content as DF SoLSA under DFgsm specified in TS 51.011 Add the DF SoLSA and files to the graphical representation of the file system. Delete note reserving File references for SoLSA files Add Proceedure for Local Services Area (LSA) Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D. Add Annex F - coding of LSA Descriptor files for SoLSA Editorial changes: Add EFccp2 which was forgotten in figure Change DFgsm to DFgsmaccess
Consequences if not approved:	⌘	GSM SoLSA services not available when using a USIM.

Clauses affected:	⌘	2, 4.2.8, 4.3, 4.4.x, 4.7, 5.2.x, Annex A, Annex D, Annex F

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

Other comments:	⌘	A separate CR is raised for the SIM files related to ASCI

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC card requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language-specific information".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1".

[9] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3G Security; Security architecture".

[14] 3GPP TS 33.103: "3G Security; Integration guidelines".

[15] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[17] GSM 02.07: "Digital cellular telecommunications system (Phase 2+); Mobile Stations (MS) features".

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts - Part 5: Numbering system and registration procedure for application identifiers".

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

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

[24] 3GPP TS 22.101: "Service aspects; Service principles".

[25] 3GPP TS 23.003: "Numbering, addressing and identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts - Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalization of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile radio interface Layer 3 specification; Radio Resource Control Protocol".

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".

[31] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

[32] ISO/IEC 7816-6 (1996): "Identification cards - Integrated circuit(s) cards with contacts - Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio transmission and reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception".

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP) Phase 1; Stage 2".

[37] ETSI TS 102 221: "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)".

[38] 3GPP TS 23.140: "Multimedia Messaging Service (MMS); Functional description; Stage 2".

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~~ 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:	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°55	MMS User Connectivity Parameters

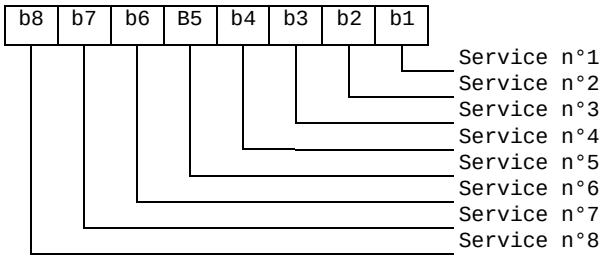
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

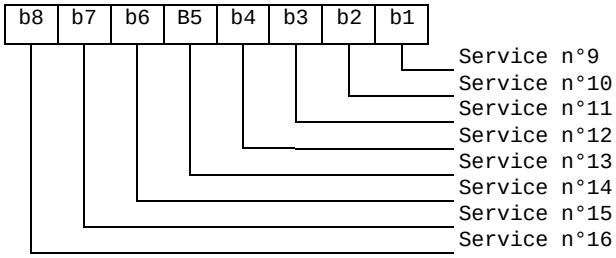
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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:



etc.

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'.
- $DF_{GSM\text{-}ACCESS}$ ~~———~~'5F3B'.
- DF_{MExE} '5F3C'.
- DF_{SoLSA} '5F70'.

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

~~'5F70' is reserved for DF_{SoLSA}.~~

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

4.4.x Contents of files at the DF SoLSA level

~~Void~~This only applies if the Support of Localised Service Areas is supported, as indicated by Service Number 23 in the USIM Service Table and specified in 3GPP TS 23.073 [23] .

The EFs contain information about the users subscribed local service areas.

4.4.x.1 EF_{SAI} (SoLSA Access Indicator)

This EF contains the 'LSA only access indicator'. This EF shall always be allocated if DF_{SoLSA} is present.

If the indicator is set, the network will prevent terminated and/or originated calls when the MS is camped in cells that are not included in the list of allowed LSAs in EF_{SLI}. Emergency calls are, however, always allowed.

The EF also contains a text string which may be displayed when the MS is out of the served area(s).

Identifier: '4F30'	Structure: transparent	Optional
File size: X + 1 bytes	Update activity: low	

Access Conditions:

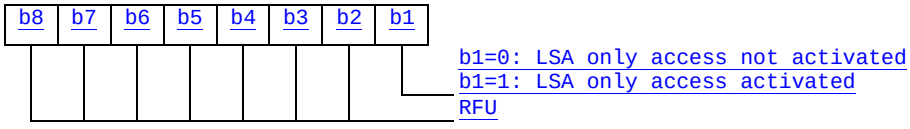
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA only access indicator	M	1 byte
2 to X+1	LSA only access indication text	M	X bytes

- LSA only access indicator

  Contents: indicates whether the MS is restricted to use LSA cells only or not.

  Coding:



- LSA only access indication text

  Contents: text to be displayed by the ME when it's out of LSA area.

  Coding: the string shall use either

- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of the UCS2 coded options as defined in annex B.

4.4.x.2 EF_{SLL} (SoLSA LSA List)

This EF contains information describing the LSAs that the user is subscribed to. This EF shall always be allocated if DF_{SoLSA} is present.

Each LSA is described by one record that is linked to a LSA Descriptor file. Each record contains information of the PLMN, priority of the LSA, information about the subscription and may also contain a text string and/or an icon that identifies the LSA to the user. The text string can be edited by the user.

Identifier: '4F31'	Structure: linear fixed	Optional
Record length: X + 10 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to X	LSA name	O	X bytes
X+1	Configuration parameters	M	1 byte
X+2	RFU	M	1 byte
X+3	Icon Identifier	M	1 byte
X+4	Priority	M	1 byte
X+5 to X+7	PLMN code	M	3 bytes
X+8 to X+9	LSA Descriptor File Identifier	M	2 byte
X+10	LSA Descriptor Record Identifier	M	1 byte

- LSA name

Contents: LSA name string to be displayed when the ME is camped in the corresponding area, dependant on the contents of the LSA indication for idle mode field.

Coding: the string shall use either

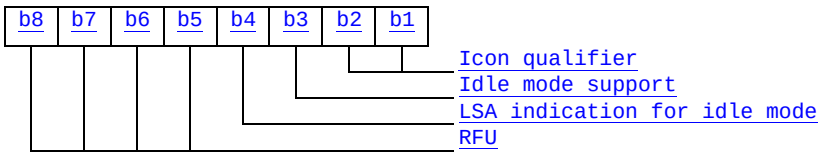
- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of theUCS2 code options defined in the annex of TS 31.101 [11].

- Configuration parameters

Contents: Icon qualifier, control of idle mode support and control of LSA indication for idle mode.

Coding:



Icon qualifier:

Contents: The icon qualifier indicates to the ME how the icon is to be used.

b2, b1: 00: icon is not to be used and may not be present
01: icon is self-explanatory, i.e. if displayed, it replaces the LSA name

10: icon is not self-explanatory, i.e. if displayed, it shall be displayed together with the LSA name
11: RFU

Idle mode support:

Contents: The idle mode support is used to indicate whether the ME shall favour camping on the LSA cells in idle mode.

b3 = 0:Idle mode support disabled
b3 = 1:Idle mode support enabled

LSA indication for idle mode:

Contents: The LSA indication for idle mode is used to indicate whether or not the ME shall display the LSA name when the ME is camped on a cell within the LSA.

b4 = 0:LSA indication for idle mode disabled
b4 = 1:LSA indication for idle mode enabled

Bits b5 to b8 are RFU (see subclause 9.3).

- Icon Identifier

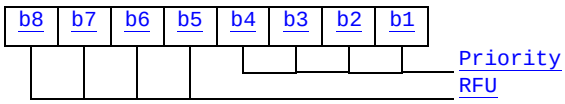
Contents: The icon identifier addresses a record in EF_{IMG}.

Coding: binary.

- Priority

Contents: Priority of the LSA which gives the ME the preference of this LSA relative to the other LSAs.

Coding:



'0' is lowest priority, 'F' is highest.

- PLMN code

Contents: MCC + MNC for the LSA.

Coding: according to GSM 24.008 [9] and EF_{LOCI}.

- LSA Descriptor File Identifier:

Contents: these bytes identify the EF which contains the LSA Descriptors forming the LSA.

Coding: byte X+8: high byte of the LSA Descriptor file;
byte X+9: low byte of the LSA Descriptor file.

- LSA Descriptor Record Identifier:

Contents: this byte identifies the number of the first record in the LSA Descriptor file forming the LSA.

Coding: binary.

4.4.x.3 LSA Descriptor files

Residing under DF_{SoLSA}, there may be several LSA Descriptor files. These EFs contains one or more records again containing LSA Descriptors forming the LSAs. LSAs can be described in four different ways. As a list of LSA IDs, as a list of LAC + CIs, as a list of CIs or as a list of LACs. As the basic elements (LSA ID, LAC + CI, CI and LAC) of the four types of lists are of different length, they can not be mixed within one record. Different records may contain different kinds of lists within the EFs. Examples of codings of LSA Descriptor files can be found in annex F.

Identifier: '4FXX'	Structure: linear fixed	Optional
Record length: n*X+2 bytes	Update activity: low	

Access Conditions:

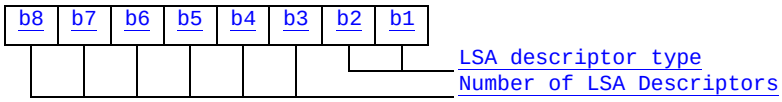
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA descriptor type and number	M	1 byte
2 to X+1	1st LSA Descriptor	M	X bytes
X+2 to 2X+1	2nd LSA Descriptor	M	X bytes
(n-1)*X+2 to n*X+1	nth LSA Descriptor	M	X bytes
n*X+2	Record Identifier	M	1 byte

- LSA descriptor type and number:

  Contents: The LSA descriptor type gives the format of the LSA descriptor and the number of valid LSA Descriptors within the record.

  Coding:



  LSA descriptor type:

  Contents: Gives the format of the LSA Descriptors.

  b2, b1: 00: LSA ID.
  01: LAC + CI
  10: CI
  11: LAC

  Number of LSA Descriptors:

  Contents: Gives the number of valid LSA Descriptors in the record.

  Coding: binary, with b8 as MSB and b3 as LSB leaving room for 64 LSA Descriptors per record.

- LSA Descriptor

  Contents: Dependant of the coding indicated in the LSA descriptor type:

  - in case of LSA ID the field length 'X' is 3 bytes;
  - in case of LAC + CI the field length 'X' is 4 bytes;
  - in case of CI the field length 'X' is 2 bytes;
  - in case of LAC the field length 'X' is 2 bytes.

Coding: according to TS 24.008 [9].

- Record Identifier:

  Contents: This byte identifies the number of the next record containing the LSA Descriptors forming the LSA.

  Coding: record number of next record. 'FF' identifies the end of the chain.

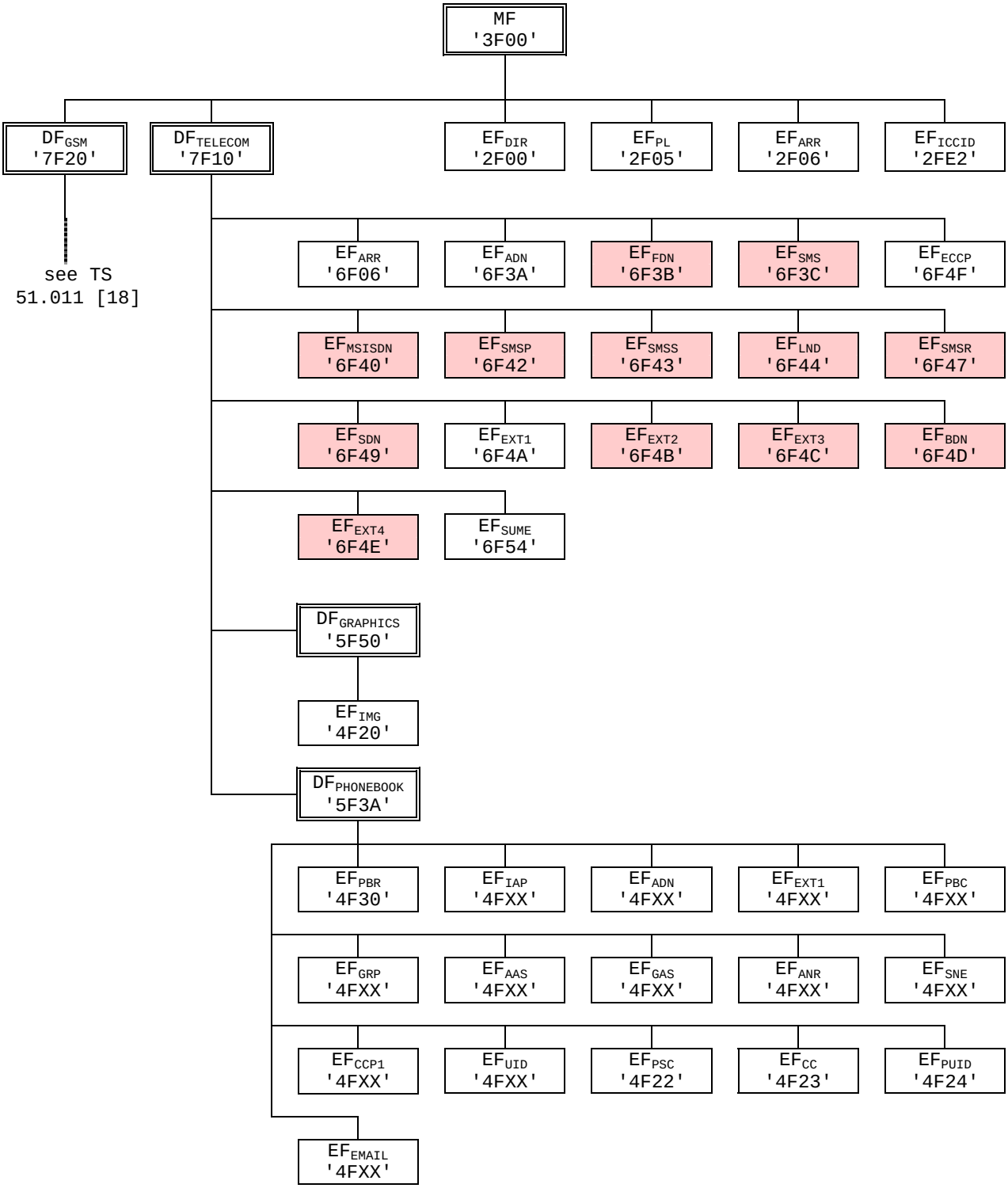
This file utilises the concept of chaining as for EF_{EXT1}.

The identifier '4FXX' shall be different from one LSA Descriptor file to the other and different from the identifiers of EF_{SAI} and EF_{SLL}. For the range of 'XX', see subclause x.x.

[…]

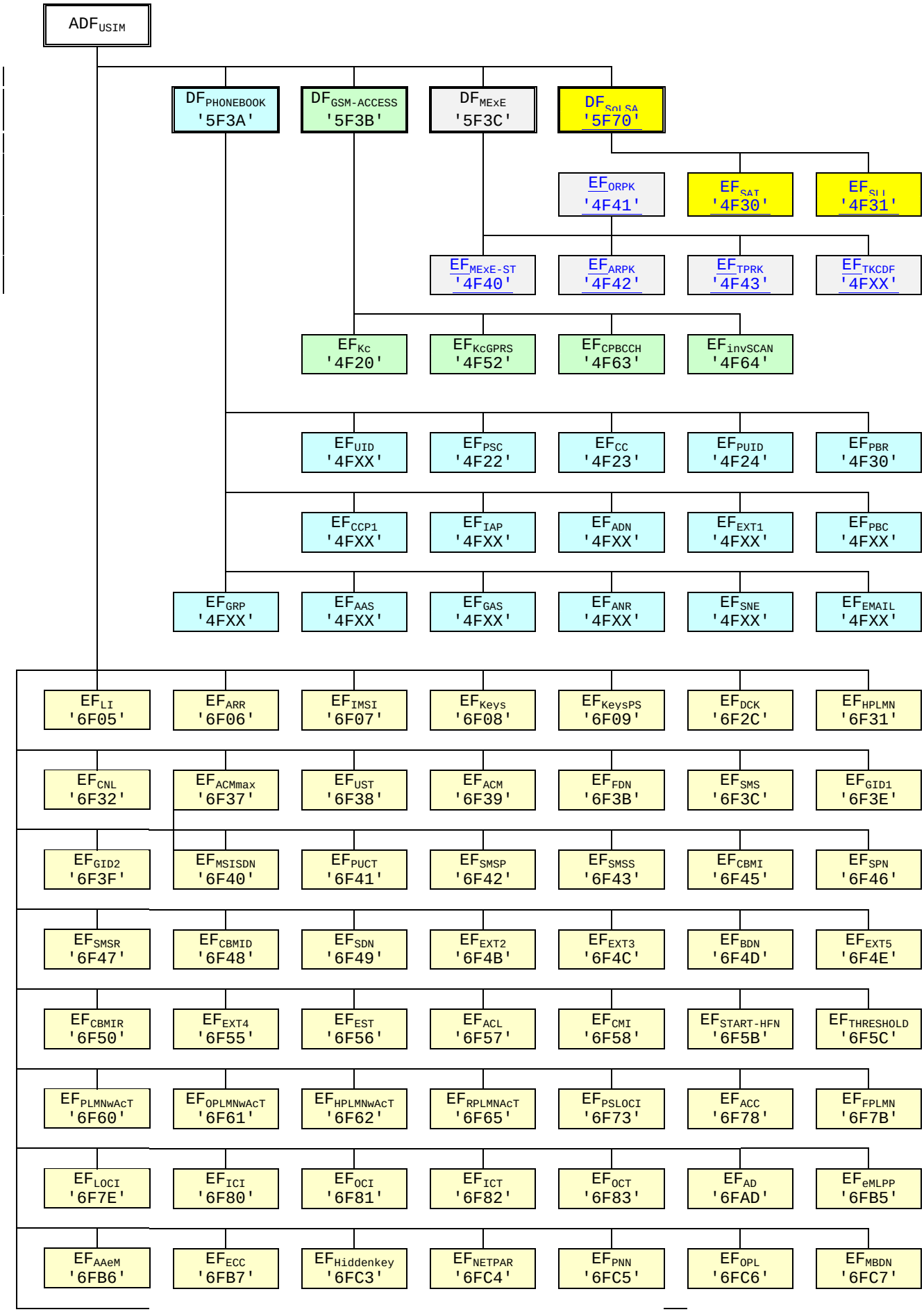
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


ADF USIM
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
DF SoLSA '5F70'
EF ORPK '4F41'
EF SAT '4F30'
EF SLI '4F31'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF TKCDF '4FXX'
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 '4FXX'
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'

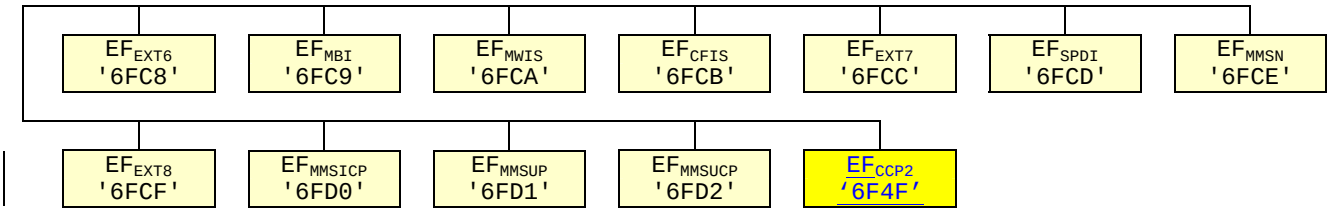


Figure 4.2: File identifiers and directory structures of USIM

~~DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).~~

5.2.x LSA information

- Requirement: Service n°23 "available".
- Request: The ME performs the reading procedure with EF_{SAI}, EF_{SLL} and its associated LSA Descriptor files.
- Update: The ME performs the updating procedure with EF_{SLL}.

[…]

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
'4F30'	SoLSA Access Indicator	Caution
'4F31'	SoLSA LSA List	Caution
'4FXX'	LSA Descriptor files	Caution
'4F52'	GPRS Ciphring 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
'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
'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
'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
'6F65'	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
'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
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
'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 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'
'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'
'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
'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’
‘6FD1’	MMS User Preferences	‘FF…FF’
‘6FD2’	MMS User Connectivity Parameters	‘FF…FF’

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

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

~~Void.~~

The length of all the records is determined by the LSA descriptor containing the largest number of bytes. Combinations containing different numbers of LSA IDs, LAC+ CI and CI or LAC can therefore be done. Various examples are show. Due to the OTA management of the records it is recommended that the record length is maximum 100 bytes in order to leave room for command descriptor and signature information in the SMS.

This first example contains two LSAs, one described by two LSA IDs and another described by three Cell IDs, giving a record length of 8 bytes.

1st record:	LSA descriptor type = LSA ID and number = 2 (1 byte)	LSA ID (3 bytes)	LSA ID (3 bytes)	Identifier (1 byte)	
2nd record:	LSA descriptor type = CI and number = 3 (1 byte)	CI (2 bytes)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

The second example contains two LSAs, one described by one LSA ID and one described by two Cell Ids, giving a record length of 6 bytes.

1st record:	LSA descriptor type = LSA ID and number = 1 (1 byte)	LSA ID (3 bytes)	'FF'	Identifier (1 byte)
2nd record:	LSA descriptor type = CI and number = 2 (1 byte)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030994⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 175 ⌘**rev** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – SoLSA Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the Support of Localised Service Areas, which had its specific directory under DFgsm in TS 51.011.
Summary of change:	⌘	Add Solsa support to USIM Service Table (UST) Add DFsolsa under ADFusim to have a similar content as DF SoLSA under DFgsm specified in TS 51.011 Add the DF SoLSA and files to the graphical representation of the file system. Delete note reserving File references for SoLSA files Add Proceedure for Local Services Area (LSA) Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D. Add Annex F - coding of LSA Descriptor files for SoLSA Editorial changes: Add EFccp2 which was forgotten in figure Change DFgsm to DFgsmaccess
Consequences if not approved:	⌘	GSM SoLSA services not available when using a USIM.

Clauses affected:	⌘	2, 4.2.8, 4.3, 4.4.x, 4.7, 5.2.x, Annex A, Annex D, Annex F

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

Other comments:	⌘	A separate CR is raised for the SIM files related to ASCI

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC card requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language-specific information".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1".

[9] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3G Security; Security architecture".

[14] 3GPP TS 33.103: "3G Security; Integration guidelines".

[15] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[17] GSM 02.07: "Digital cellular telecommunications system (Phase 2+); Mobile Stations (MS) features".

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts - Part 5: Numbering system and registration procedure for application identifiers".

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

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

[24] 3GPP TS 22.101: "Service aspects; Service principles".

[25] 3GPP TS 23.003: "Numbering, addressing and identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts - Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalization of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile radio interface Layer 3 specification; Radio Resource Control Protocol".

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".

[31] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

[32] ISO/IEC 7816-6 (1996): "Identification cards - Integrated circuit(s) cards with contacts - Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio transmission and reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception".

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP) Phase 1; Stage 2".

[37] ETSI TS 102 221: "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)".

[38] 3GPP TS 23.140: "Multimedia Messaging Service (MMS); Functional description; Stage 2".

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~~ 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:	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°55	MMS User Connectivity Parameters

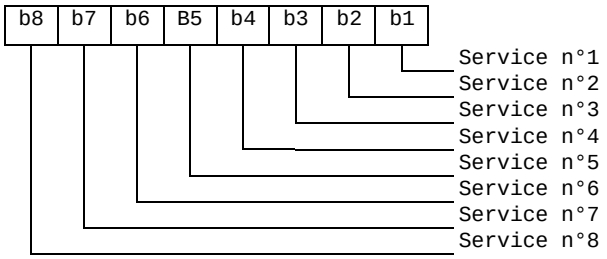
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

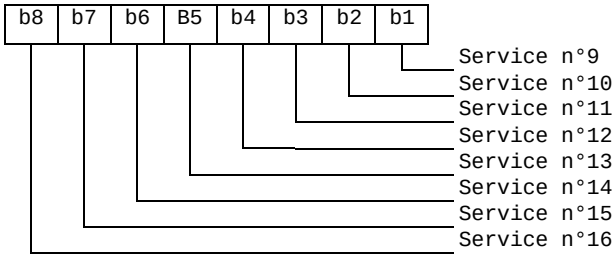
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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:



etc.

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'.
- $DF_{GSM\text{-}ACCESS}$ ~~———~~'5F3B'.
- DF_{MExE} '5F3C'.
- DF_{SoLSA} '5F70'.

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

~~'5F70' is reserved for DF_{SoLSA}.~~

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

4.4.x Contents of files at the DF SoLSA level

~~Void~~This only applies if the Support of Localised Service Areas is supported, as indicated by Service Number 23 in the USIM Service Table and specified in 3GPP TS 23.073 [23] .

The EFs contain information about the users subscribed local service areas.

4.4.x.1 EF_{SAI} (SoLSA Access Indicator)

This EF contains the 'LSA only access indicator'. This EF shall always be allocated if DF_{SoLSA} is present.

If the indicator is set, the network will prevent terminated and/or originated calls when the MS is camped in cells that are not included in the list of allowed LSAs in EF_{SLI}. Emergency calls are, however, always allowed.

The EF also contains a text string which may be displayed when the MS is out of the served area(s).

Identifier: '4F30'	Structure: transparent	Optional
File size: X + 1 bytes	Update activity: low	

Access Conditions:

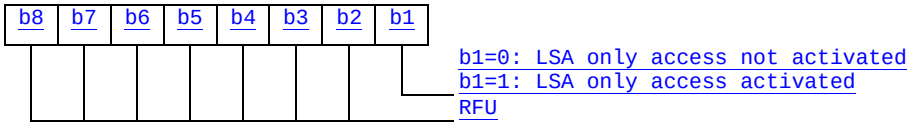
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA only access indicator	M	1 byte
2 to X+1	LSA only access indication text	M	X bytes

- LSA only access indicator

  Contents: indicates whether the MS is restricted to use LSA cells only or not.

  Coding:



- LSA only access indication text

  Contents: text to be displayed by the ME when it's out of LSA area.

  Coding: the string shall use either

- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of the UCS2 coded options as defined in annex B.

4.4.x.2 EF_{SLL} (SoLSA LSA List)

This EF contains information describing the LSAs that the user is subscribed to. This EF shall always be allocated if DF_{SoLSA} is present.

Each LSA is described by one record that is linked to a LSA Descriptor file. Each record contains information of the PLMN, priority of the LSA, information about the subscription and may also contain a text string and/or an icon that identifies the LSA to the user. The text string can be edited by the user.

Identifier: '4F31'	Structure: linear fixed	Optional
Record length: X + 10 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to X	LSA name	O	X bytes
X+1	Configuration parameters	M	1 byte
X+2	RFU	M	1 byte
X+3	Icon Identifier	M	1 byte
X+4	Priority	M	1 byte
X+5 to X+7	PLMN code	M	3 bytes
X+8 to X+9	LSA Descriptor File Identifier	M	2 byte
X+10	LSA Descriptor Record Identifier	M	1 byte

- LSA name

Contents: LSA name string to be displayed when the ME is camped in the corresponding area, dependant on the contents of the LSA indication for idle mode field.

Coding: the string shall use either

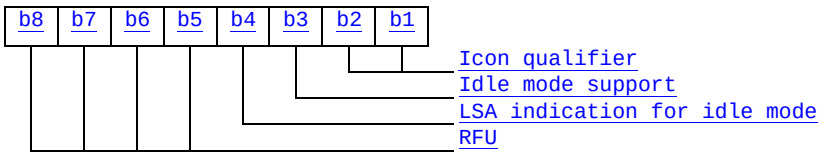
- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of theUCS2 code options defined in the annex of TS 31.101 [11].

- Configuration parameters

Contents: Icon qualifier, control of idle mode support and control of LSA indication for idle mode.

Coding:



Icon qualifier:

Contents: The icon qualifier indicates to the ME how the icon is to be used.

b2, b1: 00: icon is not to be used and may not be present
01: icon is self-explanatory, i.e. if displayed, it replaces the LSA name

10: icon is not self-explanatory, i.e. if displayed, it shall be displayed together with the LSA name
11: RFU

Idle mode support:

Contents: The idle mode support is used to indicate whether the ME shall favour camping on the LSA cells in idle mode.

b3 = 0:Idle mode support disabled
b3 = 1:Idle mode support enabled

LSA indication for idle mode:

Contents: The LSA indication for idle mode is used to indicate whether or not the ME shall display the LSA name when the ME is camped on a cell within the LSA.

b4 = 0:LSA indication for idle mode disabled
b4 = 1:LSA indication for idle mode enabled

Bits b5 to b8 are RFU (see subclause 9.3).

- Icon Identifier

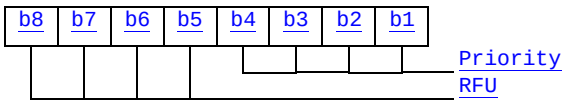
Contents: The icon identifier addresses a record in EF_{IMG}.

Coding: binary.

- Priority

Contents: Priority of the LSA which gives the ME the preference of this LSA relative to the other LSAs.

Coding:



'0' is lowest priority, 'F' is highest.

- PLMN code

Contents: MCC + MNC for the LSA.

Coding: according to GSM 24.008 [9] and EF_{LOCI}.

- LSA Descriptor File Identifier:

Contents: these bytes identify the EF which contains the LSA Descriptors forming the LSA.

Coding: byte X+8: high byte of the LSA Descriptor file;
byte X+9: low byte of the LSA Descriptor file.

- LSA Descriptor Record Identifier:

Contents: this byte identifies the number of the first record in the LSA Descriptor file forming the LSA.

Coding: binary.

4.4.x.3 LSA Descriptor files

Residing under DF_{SoLSA}, there may be several LSA Descriptor files. These EFs contains one or more records again containing LSA Descriptors forming the LSAs. LSAs can be described in four different ways. As a list of LSA IDs, as a list of LAC + CIs, as a list of CIs or as a list of LACs. As the basic elements (LSA ID, LAC + CI, CI and LAC) of the four types of lists are of different length, they can not be mixed within one record. Different records may contain different kinds of lists within the EFs. Examples of codings of LSA Descriptor files can be found in annex F.

Identifier: '4FXX'	Structure: linear fixed	Optional
Record length: n*X+2 bytes	Update activity: low	

Access Conditions:

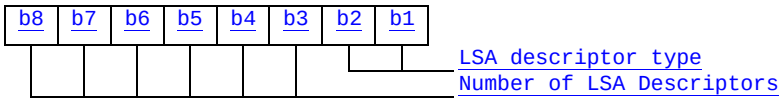
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA descriptor type and number	M	1 byte
2 to X+1	1st LSA Descriptor	M	X bytes
X+2 to 2X+1	2nd LSA Descriptor	M	X bytes
(n-1)*X+2 to n*X+1	nth LSA Descriptor	M	X bytes
n*X+2	Record Identifier	M	1 byte

- LSA descriptor type and number:

  Contents: The LSA descriptor type gives the format of the LSA descriptor and the number of valid LSA Descriptors within the record.

  Coding:



  LSA descriptor type:

  Contents: Gives the format of the LSA Descriptors.

  b2, b1: 00: LSA ID.
  01: LAC + CI
  10: CI
  11: LAC

  Number of LSA Descriptors:

  Contents: Gives the number of valid LSA Descriptors in the record.

  Coding: binary, with b8 as MSB and b3 as LSB leaving room for 64 LSA Descriptors per record.

- LSA Descriptor

  Contents: Dependant of the coding indicated in the LSA descriptor type:

  - in case of LSA ID the field length 'X' is 3 bytes;
  - in case of LAC + CI the field length 'X' is 4 bytes;
  - in case of CI the field length 'X' is 2 bytes;
  - in case of LAC the field length 'X' is 2 bytes.

Coding: according to TS 24.008 [9].

- Record Identifier:

  Contents: This byte identifies the number of the next record containing the LSA Descriptors forming the LSA.

  Coding: record number of next record. 'FF' identifies the end of the chain.

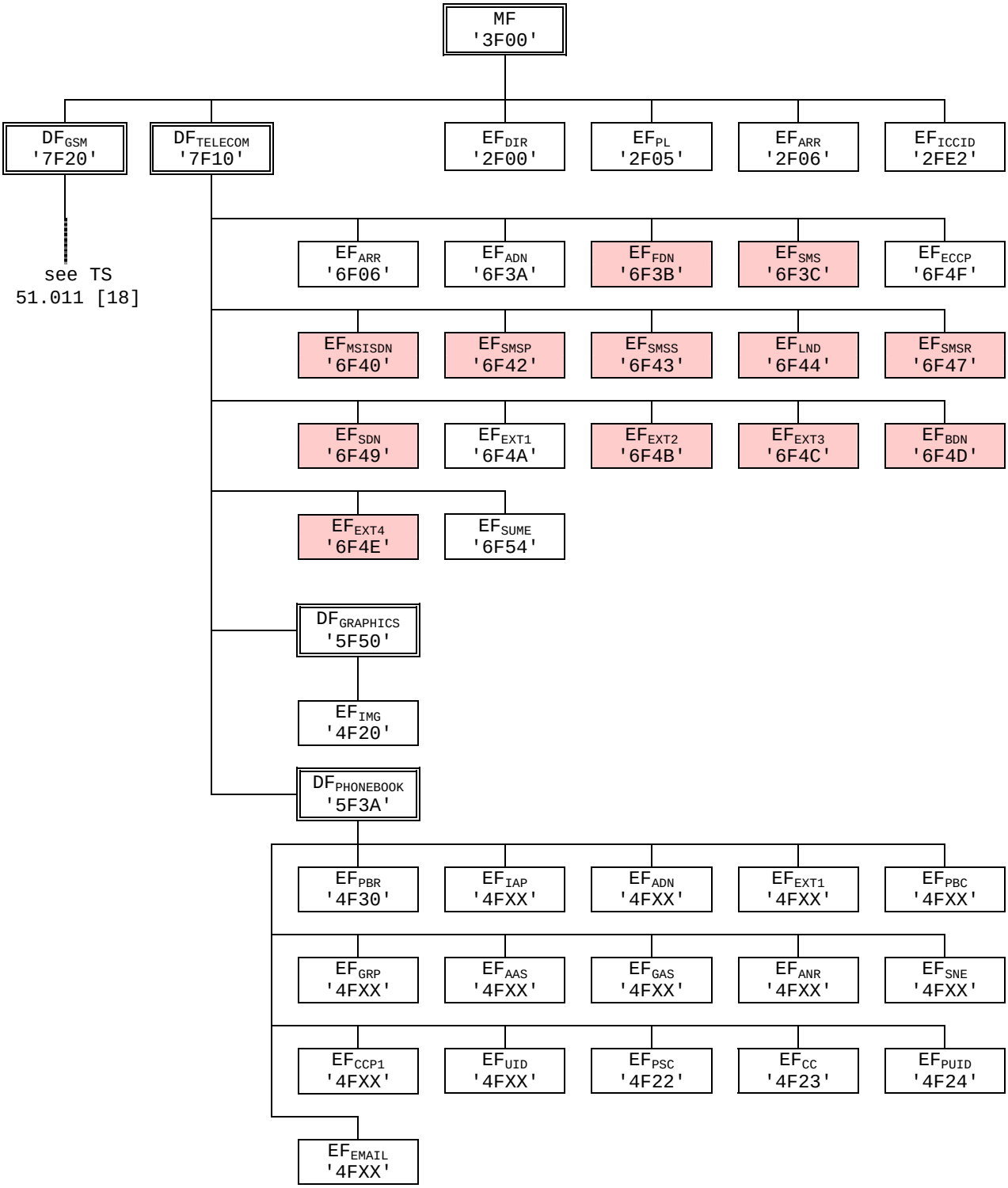
This file utilises the concept of chaining as for EF_{EXT1}.

The identifier '4FXX' shall be different from one LSA Descriptor file to the other and different from the identifiers of EF_{SAI} and EF_{SLL}. For the range of 'XX', see subclause x.x.

[…]

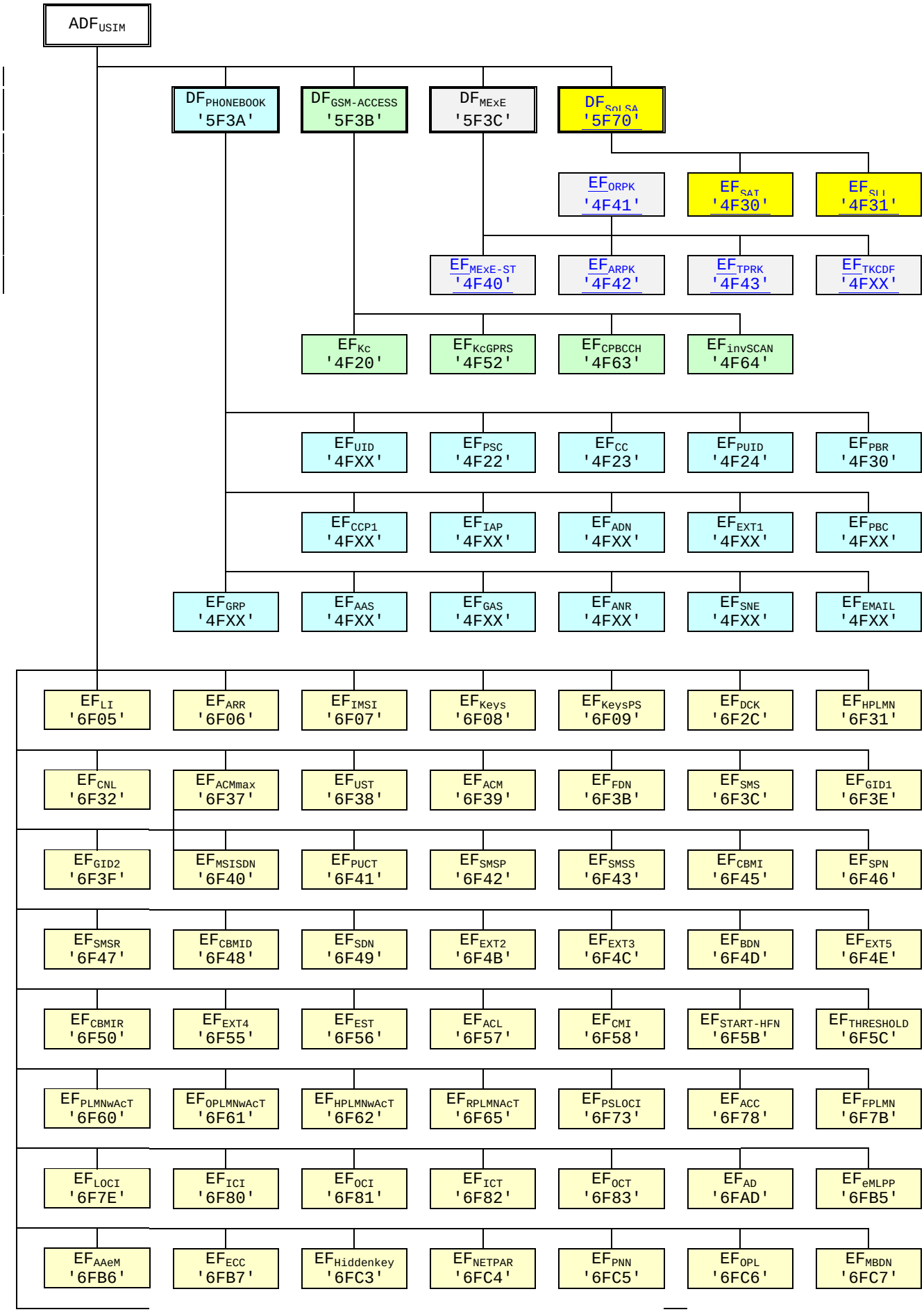
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


ADF USIM
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
DF SoLSA '5F70'
EF ORPK '4F41'
EF SAT '4F30'
EF SLI '4F31'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF TKCDF '4FXX'
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 '4FXX'
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'

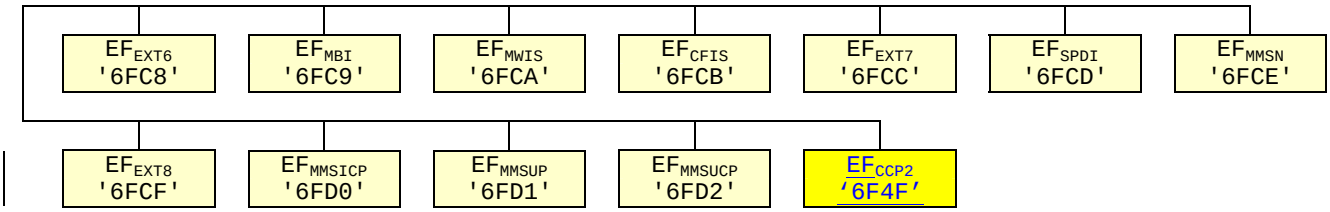


Figure 4.2: File identifiers and directory structures of USIM

~~DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).~~

5.2.x LSA information

- Requirement: Service n°23 "available".
- Request: The ME performs the reading procedure with EF_{SAI}, EF_{SLL} and its associated LSA Descriptor files.
- Update: The ME performs the updating procedure with EF_{SLL}.

[…]

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
'4F30'	SoLSA Access Indicator	Caution
'4F31'	SoLSA LSA List	Caution
'4FXX'	LSA Descriptor files	Caution
'4F52'	GPRS Ciphring 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
'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
'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
'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
'6F65'	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
'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
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
'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 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'
'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'
'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
'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’
‘6FD1’	MMS User Preferences	‘FF…FF’
‘6FD2’	MMS User Connectivity Parameters	‘FF…FF’

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

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

~~Void.~~

The length of all the records is determined by the LSA descriptor containing the largest number of bytes. Combinations containing different numbers of LSA IDs, LAC+ CI and CI or LAC can therefore be done. Various examples are show. Due to the OTA management of the records it is recommended that the record length is maximum 100 bytes in order to leave room for command descriptor and signature information in the SMS.

This first example contains two LSAs, one described by two LSA IDs and another described by three Cell IDs, giving a record length of 8 bytes.

1st record:	LSA descriptor type = LSA ID and number = 2 (1 byte)	LSA ID (3 bytes)	LSA ID (3 bytes)	Identifier (1 byte)	
2nd record:	LSA descriptor type = CI and number = 3 (1 byte)	CI (2 bytes)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

The second example contains two LSAs, one described by one LSA ID and one described by two Cell Ids, giving a record length of 6 bytes.

1st record:	LSA descriptor type = LSA ID and number = 1 (1 byte)	LSA ID (3 bytes)	'FF'	Identifier (1 byte)
2nd record:	LSA descriptor type = CI and number = 2 (1 byte)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030995⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 176 ⌘**rev** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – SoLSA Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the Support of Localised Service Areas, which had its specific directory under DFgsm in TS 51.011.
Summary of change:	⌘	Add Solsa support to USIM Service Table (UST) Add DFsolsa under ADFusim to have a similar content as DF SoLSA under DFgsm specified in TS 51.011 Add the DF SoLSA and files to the graphical representation of the file system. Delete note reserving File references for SoLSA files Add Proceedure for Local Services Area (LSA) Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D. Add Annex F - coding of LSA Descriptor files for SoLSA Editorial changes: Add EFccp2 which was forgotten in figure Change DFgsm to DFgsmaccess
Consequences if not approved:	⌘	GSM SoLSA services not available when using a USIM.

Clauses affected:	⌘	2, 4.2.8, 4.3, 4.4.x, 4.7, 5.2.x, Annex A, Annex D, Annex F

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

Other comments:	⌘	A separate CR is raised for the SIM files related to ASCI

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC card requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language-specific information".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1".

[9] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3G Security; Security architecture".

[14] 3GPP TS 33.103: "3G Security; Integration guidelines".

[15] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[17] GSM 02.07: "Digital cellular telecommunications system (Phase 2+); Mobile Stations (MS) features".

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts - Part 5: Numbering system and registration procedure for application identifiers".

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

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

[24] 3GPP TS 22.101: "Service aspects; Service principles".

[25] 3GPP TS 23.003: "Numbering, addressing and identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts - Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalization of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile radio interface Layer 3 specification; Radio Resource Control Protocol".

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".

[31] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

[32] ISO/IEC 7816-6 (1996): "Identification cards - Integrated circuit(s) cards with contacts - Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio transmission and reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception".

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP) Phase 1; Stage 2".

[37] ETSI TS 102 221: "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)".

[38] 3GPP TS 23.140: "Multimedia Messaging Service (MMS); Functional description; Stage 2".

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~~ 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:	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°55	MMS User Connectivity Parameters

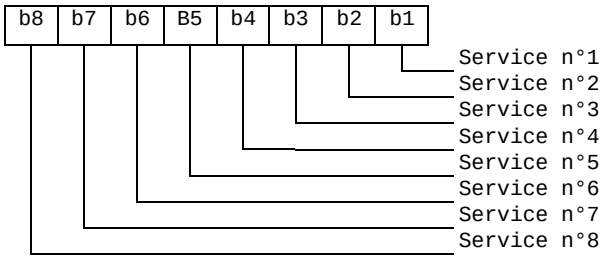
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

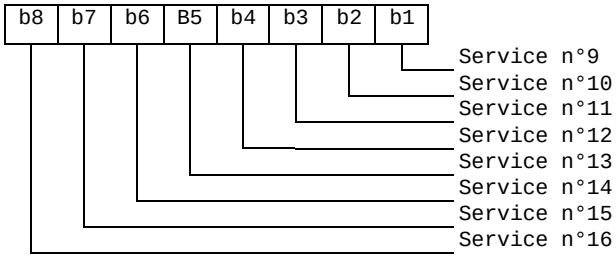
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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:



etc.

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'.
- $DF_{GSM\text{-}ACCESS}$ ~~———~~'5F3B'.
- DF_{MExE} '5F3C'.
- DF_{SoLSA} '5F70'.

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

~~'5F70' is reserved for DF_{SoLSA}.~~

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

4.4.x Contents of files at the DF SoLSA level

~~Void~~This only applies if the Support of Localised Service Areas is supported, as indicated by Service Number 23 in the USIM Service Table and specified in 3GPP TS 23.073 [23] .

The EFs contain information about the users subscribed local service areas.

4.4.x.1 EF_{SAI} (SoLSA Access Indicator)

This EF contains the 'LSA only access indicator'. This EF shall always be allocated if DF_{SoLSA} is present.

If the indicator is set, the network will prevent terminated and/or originated calls when the MS is camped in cells that are not included in the list of allowed LSAs in EF_{SLI}. Emergency calls are, however, always allowed.

The EF also contains a text string which may be displayed when the MS is out of the served area(s).

Identifier: '4F30'	Structure: transparent	Optional
File size: X + 1 bytes	Update activity: low	

Access Conditions:

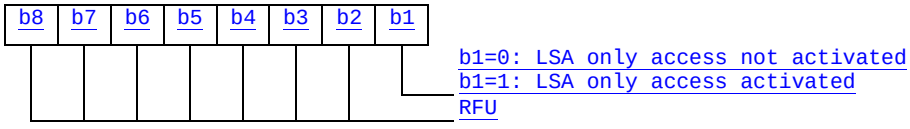
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA only access indicator	M	1 byte
2 to X+1	LSA only access indication text	M	X bytes

- LSA only access indicator

  Contents: indicates whether the MS is restricted to use LSA cells only or not.

  Coding:



- LSA only access indication text

  Contents: text to be displayed by the ME when it's out of LSA area.

  Coding: the string shall use either

- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of the UCS2 coded options as defined in annex B.

4.4.x.2 EF_{SLL} (SoLSA LSA List)

This EF contains information describing the LSAs that the user is subscribed to. This EF shall always be allocated if DF_{SoLSA} is present.

Each LSA is described by one record that is linked to a LSA Descriptor file. Each record contains information of the PLMN, priority of the LSA, information about the subscription and may also contain a text string and/or an icon that identifies the LSA to the user. The text string can be edited by the user.

Identifier: '4F31'	Structure: linear fixed	Optional
Record length: X + 10 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to X	LSA name	O	X bytes
X+1	Configuration parameters	M	1 byte
X+2	RFU	M	1 byte
X+3	Icon Identifier	M	1 byte
X+4	Priority	M	1 byte
X+5 to X+7	PLMN code	M	3 bytes
X+8 to X+9	LSA Descriptor File Identifier	M	2 byte
X+10	LSA Descriptor Record Identifier	M	1 byte

- LSA name

Contents: LSA name string to be displayed when the ME is camped in the corresponding area, dependant on the contents of the LSA indication for idle mode field.

Coding: the string shall use either

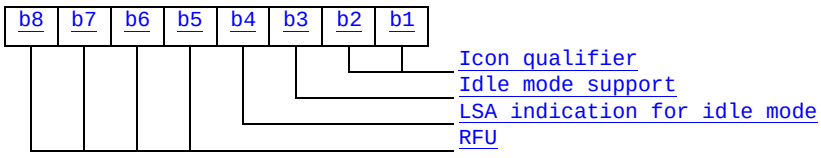
- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of theUCS2 code options defined in the annex of TS 31.101 [11].

- Configuration parameters

Contents: Icon qualifier, control of idle mode support and control of LSA indication for idle mode.

Coding:



Icon qualifier:

Contents: The icon qualifier indicates to the ME how the icon is to be used.

b2, b1: 00: icon is not to be used and may not be present
01: icon is self-explanatory, i.e. if displayed, it replaces the LSA name

10: icon is not self-explanatory, i.e. if displayed, it shall be displayed together with the LSA name
11: RFU

Idle mode support:

Contents: The idle mode support is used to indicate whether the ME shall favour camping on the LSA cells in idle mode.

b3 = 0:Idle mode support disabled
b3 = 1:Idle mode support enabled

LSA indication for idle mode:

Contents: The LSA indication for idle mode is used to indicate whether or not the ME shall display the LSA name when the ME is camped on a cell within the LSA.

b4 = 0:LSA indication for idle mode disabled
b4 = 1:LSA indication for idle mode enabled

Bits b5 to b8 are RFU (see subclause 9.3).

- Icon Identifier

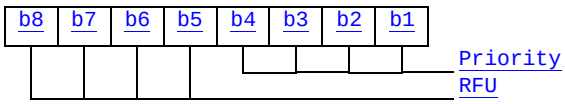
Contents: The icon identifier addresses a record in EF_{IMG}.

Coding: binary.

- Priority

Contents: Priority of the LSA which gives the ME the preference of this LSA relative to the other LSAs.

Coding:



'0' is lowest priority, 'F' is highest.

- PLMN code

Contents: MCC + MNC for the LSA.

Coding: according to GSM 24.008 [9] and EF_{LOCI}.

- LSA Descriptor File Identifier:

Contents: these bytes identify the EF which contains the LSA Descriptors forming the LSA.

Coding: byte X+8: high byte of the LSA Descriptor file;
byte X+9: low byte of the LSA Descriptor file.

- LSA Descriptor Record Identifier:

Contents: this byte identifies the number of the first record in the LSA Descriptor file forming the LSA.

Coding: binary.

4.4.x.3 LSA Descriptor files

Residing under DF_{SoLSA}, there may be several LSA Descriptor files. These EFs contains one or more records again containing LSA Descriptors forming the LSAs. LSAs can be described in four different ways. As a list of LSA IDs, as a list of LAC + CIs, as a list of CIs or as a list of LACs. As the basic elements (LSA ID, LAC + CI, CI and LAC) of the four types of lists are of different length, they can not be mixed within one record. Different records may contain different kinds of lists within the EFs. Examples of codings of LSA Descriptor files can be found in annex F.

Identifier: '4FXX'	Structure: linear fixed	Optional
Record length: n*X+2 bytes	Update activity: low	

Access Conditions:

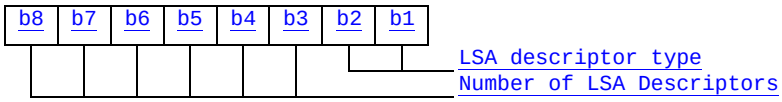
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA descriptor type and number	M	1 byte
2 to X+1	1st LSA Descriptor	M	X bytes
X+2 to 2X+1	2nd LSA Descriptor	M	X bytes
(n-1)*X+2 to n*X+1	nth LSA Descriptor	M	X bytes
n*X+2	Record Identifier	M	1 byte

- LSA descriptor type and number:

  Contents: The LSA descriptor type gives the format of the LSA descriptor and the number of valid LSA Descriptors within the record.

  Coding:



  LSA descriptor type:

  Contents: Gives the format of the LSA Descriptors.

  b2, b1: 00: LSA ID.
  01: LAC + CI
  10: CI
  11: LAC

  Number of LSA Descriptors:

  Contents: Gives the number of valid LSA Descriptors in the record.

  Coding: binary, with b8 as MSB and b3 as LSB leaving room for 64 LSA Descriptors per record.

- LSA Descriptor

  Contents: Dependant of the coding indicated in the LSA descriptor type:

  - in case of LSA ID the field length 'X' is 3 bytes;
  - in case of LAC + CI the field length 'X' is 4 bytes;
  - in case of CI the field length 'X' is 2 bytes;
  - in case of LAC the field length 'X' is 2 bytes.

Coding: according to TS 24.008 [9].

- Record Identifier:

  Contents: This byte identifies the number of the next record containing the LSA Descriptors forming the LSA.

  Coding: record number of next record. 'FF' identifies the end of the chain.

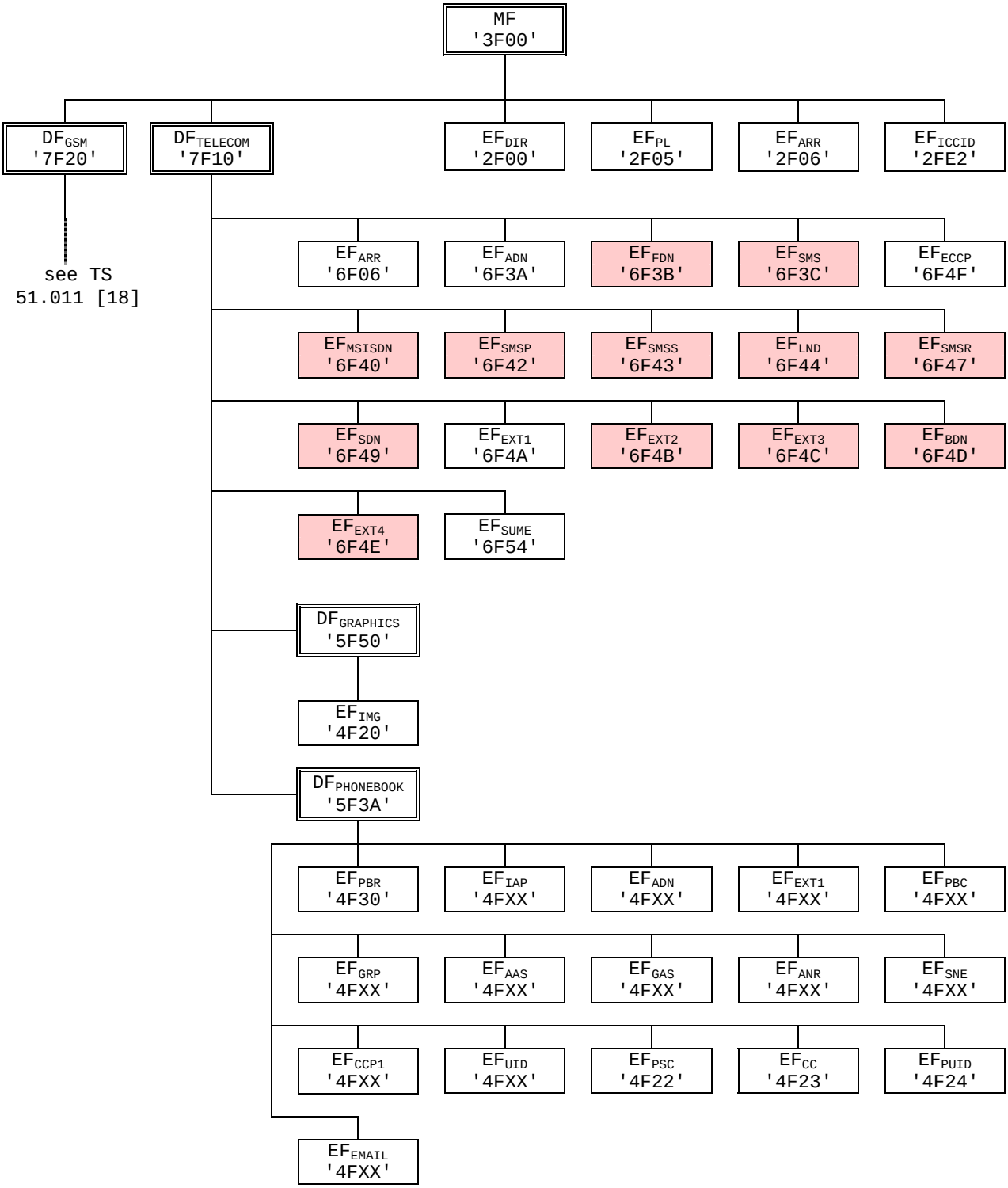
This file utilises the concept of chaining as for EF_{EXT1}.

The identifier '4FXX' shall be different from one LSA Descriptor file to the other and different from the identifiers of EF_{SAI} and EF_{SLL}. For the range of 'XX', see subclause x.x.

[…]

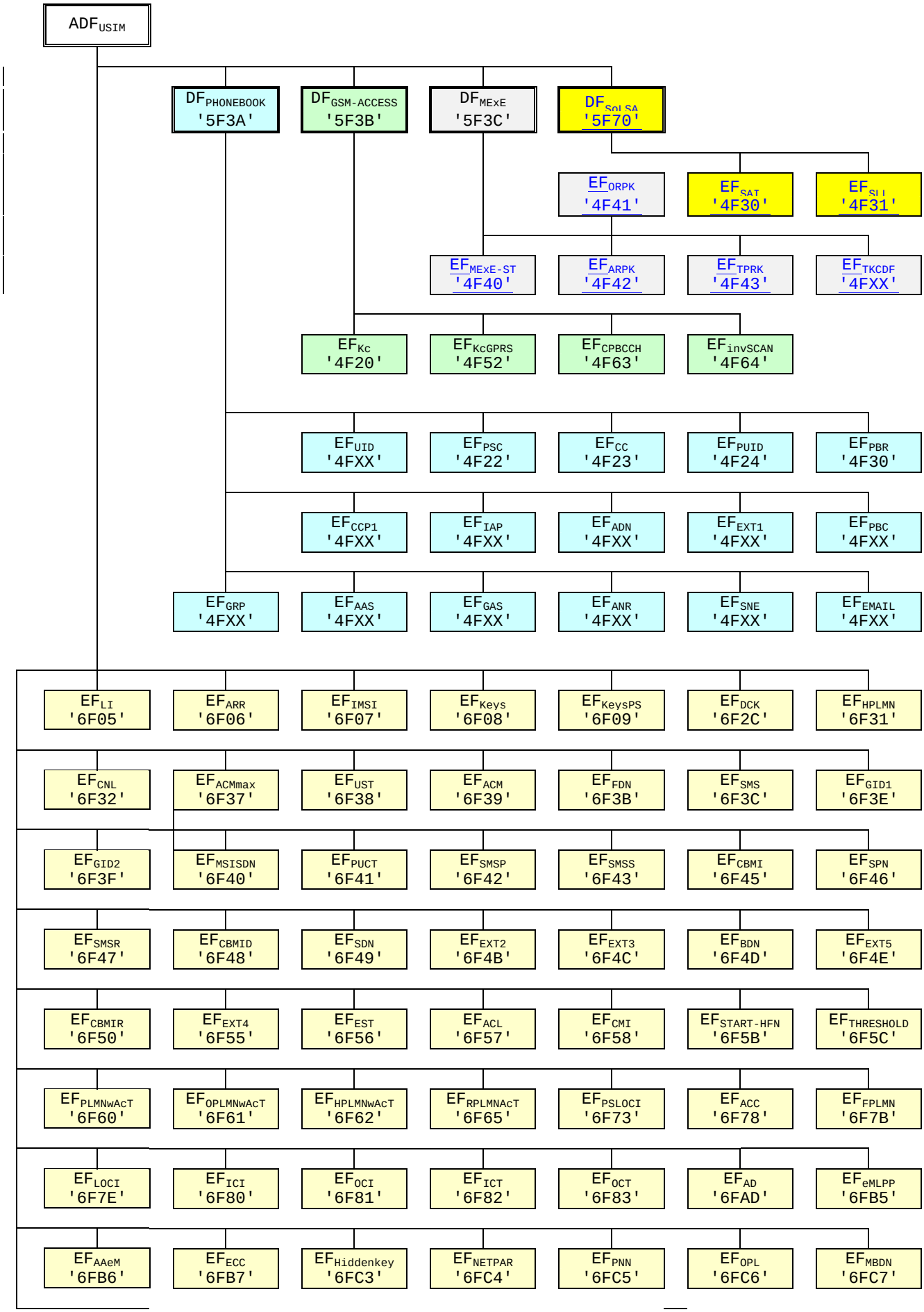
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


ADF USIM
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
DF SoLSA '5F70'
EF ORPK '4F41'
EF SAT '4F30'
EF SLI '4F31'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF TKCDF '4FXX'
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 '4FXX'
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'

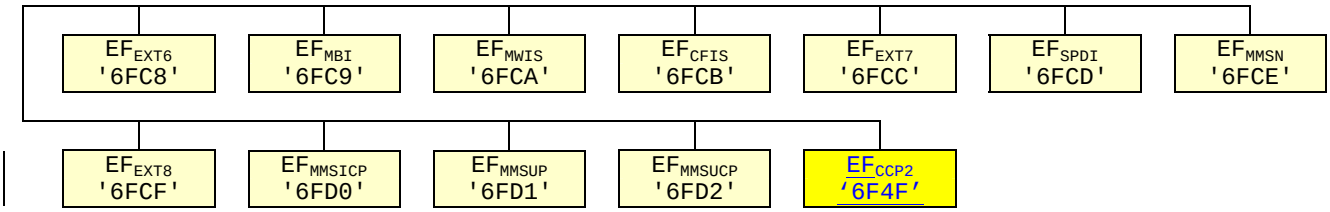


Figure 4.2: File identifiers and directory structures of USIM

~~DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).~~

5.2.x LSA information

- Requirement: Service n°23 "available".
- Request: The ME performs the reading procedure with EF_{SAI}, EF_{SLL} and its associated LSA Descriptor files.
- Update: The ME performs the updating procedure with EF_{SLL}.

[…]

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
'4F30'	SoLSA Access Indicator	Caution
'4F31'	SoLSA LSA List	Caution
'4FXX'	LSA Descriptor files	Caution
'4F52'	GPRS Ciphring 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
'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
'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
'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
'6F65'	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
'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
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
'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 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'
'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'
'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
'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’
‘6FD1’	MMS User Preferences	‘FF…FF’
‘6FD2’	MMS User Connectivity Parameters	‘FF…FF’

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

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

~~Void.~~

The length of all the records is determined by the LSA descriptor containing the largest number of bytes. Combinations containing different numbers of LSA IDs, LAC+ CI and CI or LAC can therefore be done. Various examples are show. Due to the OTA management of the records it is recommended that the record length is maximum 100 bytes in order to leave room for command descriptor and signature information in the SMS.

This first example contains two LSAs, one described by two LSA IDs and another described by three Cell IDs, giving a record length of 8 bytes.

1st record:	LSA descriptor type = LSA ID and number = 2 (1 byte)	LSA ID (3 bytes)	LSA ID (3 bytes)	Identifier (1 byte)	
2nd record:	LSA descriptor type = CI and number = 3 (1 byte)	CI (2 bytes)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

The second example contains two LSAs, one described by one LSA ID and one described by two Cell Ids, giving a record length of 6 bytes.

1st record:	LSA descriptor type = LSA ID and number = 1 (1 byte)	LSA ID (3 bytes)	'FF'	Identifier (1 byte)
2nd record:	LSA descriptor type = CI and number = 2 (1 byte)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030996⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 177 ⌘**rev** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – SoLSA Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, in particular, to the Support of Localised Service Areas, which had its specific directory under DFgsm in TS 51.011.
Summary of change:	⌘	Add Solsa support to USIM Service Table (UST) Add DFsolsa under ADFusim to have a similar content as DF SoLSA under DFgsm specified in TS 51.011 Add the DF SoLSA and files to the graphical representation of the file system. Delete note reserving File references for SoLSA files Add Proceedure for Local Services Area (LSA) Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D. Add Annex F - coding of LSA Descriptor files for SoLSA Editorial changes: Add EFccp2 which was forgotten in figure Change DFgsm to DFgsmaccess
Consequences if not approved:	⌘	GSM SoLSA services not available when using a USIM.

Clauses affected:	⌘	2, 4.2.8, 4.3, 4.4.x, 4.7, 5.2.x, Annex A, Annex D, Annex F

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

Other comments:	⌘	A separate CR is raised for the SIM files related to ASCI

2 References

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

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

[1] 3GPP TS 21.111: "USIM and IC card requirements".

[2] 3GPP TS 22.011: "Service accessibility".

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

[4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)".

[5] 3GPP TS 23.038: "Alphabets and language-specific information".

[6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[8] 3GPP TS 22.067: "enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 1".

[9] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics".

[12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[13] 3GPP TS 33.102: "3G Security; Security architecture".

[14] 3GPP TS 33.103: "3G Security; Integration guidelines".

[15] 3GPP TS 22.086: "Advice of Charge (AoC) supplementary services; Stage 1".

[16] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[17] GSM 02.07: "Digital cellular telecommunications system (Phase 2+); Mobile Stations (MS) features".

[18] 3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

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

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

[21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts - Part 5: Numbering system and registration procedure for application identifiers".

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

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

[24] 3GPP TS 22.101: "Service aspects; Service principles".

[25] 3GPP TS 23.003: "Numbering, addressing and identification".

[26] ISO/IEC 7816-9 (2000): "Identification cards - Integrated circuit(s) cards with contacts - Part 9: Additional Interindustry commands and security attributes".

[27] 3GPP TS 22.022: "Personalization of Mobile Equipment (ME); Mobile functionality specification".

[28] 3GPP TS 44.018 "Mobile radio interface Layer 3 specification; Radio Resource Control Protocol".

[29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[30] 3GPP TS 23.057: "Mobile Execution Environment (MExE); Functional description; Stage 2".

[31] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

[32] ISO/IEC 7816-6 (1996): "Identification cards - Integrated circuit(s) cards with contacts - Part 6: Interindustry data elements".

[33] 3GPP TS 25.101: "UE Radio transmission and reception (FDD)"

[34] 3GPP TS 45.005: "Radio Transmission and Reception".

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

[36] 3GPP TS 23.097: "Multiple Subscriber Profile (MSP) Phase 1; Stage 2".

[37] ETSI TS 102 221: "Smart cards; UICC-Terminal interface; Physical and logical characteristics (Release 4)".

[38] 3GPP TS 23.140: "Multimedia Messaging Service (MMS); Functional description; Stage 2".

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~~ 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:	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°55	MMS User Connectivity Parameters

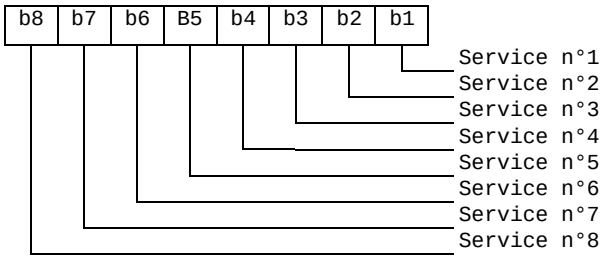
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

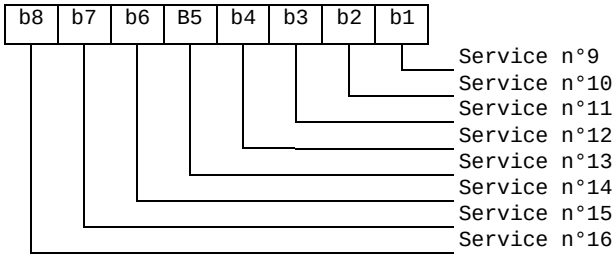
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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:



etc.

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'.
- $DF_{GSM\text{-}ACCESS}$ ~~———~~'5F3B'.
- DF_{MExE} '5F3C'.
- DF_{SoLSA} '5F70'.

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

~~'5F70' is reserved for DF_{SoLSA}.~~

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

4.4.x Contents of files at the DF SoLSA level

~~Void~~This only applies if the Support of Localised Service Areas is supported, as indicated by Service Number 23 in the USIM Service Table and specified in 3GPP TS 23.073 [23] .

The EFs contain information about the users subscribed local service areas.

4.4.x.1 EF_{SAI} (SoLSA Access Indicator)

This EF contains the 'LSA only access indicator'. This EF shall always be allocated if DF_{SoLSA} is present.

If the indicator is set, the network will prevent terminated and/or originated calls when the MS is camped in cells that are not included in the list of allowed LSAs in EF_{SLI}. Emergency calls are, however, always allowed.

The EF also contains a text string which may be displayed when the MS is out of the served area(s).

Identifier: '4F30'	Structure: transparent	Optional
File size: X + 1 bytes	Update activity: low	

Access Conditions:

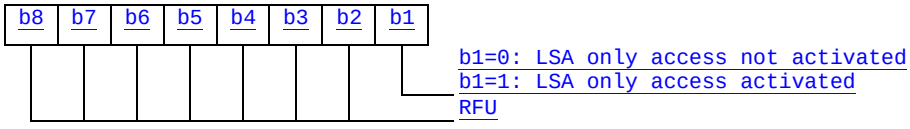
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA only access indicator	M	1 byte
2 to X+1	LSA only access indication text	M	X bytes

- LSA only access indicator

  Contents: indicates whether the MS is restricted to use LSA cells only or not.

  Coding:



- LSA only access indication text

  Contents: text to be displayed by the ME when it's out of LSA area.

  Coding: the string shall use either

- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of the UCS2 coded options as defined in annex B.

4.4.x.2 EF_{SLL} (SoLSA LSA List)

This EF contains information describing the LSAs that the user is subscribed to. This EF shall always be allocated if DF_{SoLSA} is present.

Each LSA is described by one record that is linked to a LSA Descriptor file. Each record contains information of the PLMN, priority of the LSA, information about the subscription and may also contain a text string and/or an icon that identifies the LSA to the user. The text string can be edited by the user.

Identifier: '4F31'	Structure: linear fixed	Optional
Record length: X + 10 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to X	LSA name	O	X bytes
X+1	Configuration parameters	M	1 byte
X+2	RFU	M	1 byte
X+3	Icon Identifier	M	1 byte
X+4	Priority	M	1 byte
X+5 to X+7	PLMN code	M	3 bytes
X+8 to X+9	LSA Descriptor File Identifier	M	2 byte
X+10	LSA Descriptor Record Identifier	M	1 byte

- LSA name

Contents: LSA name string to be displayed when the ME is camped in the corresponding area, dependant on the contents of the LSA indication for idle mode field.

Coding: the string shall use either

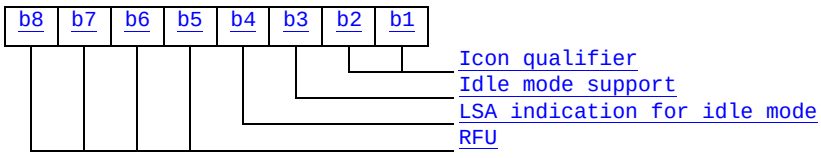
- the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified. Unused bytes shall be set to 'FF'; or

- one of theUCS2 code options defined in the annex of TS 31.101 [11].

- Configuration parameters

Contents: Icon qualifier, control of idle mode support and control of LSA indication for idle mode.

Coding:



Icon qualifier:

Contents: The icon qualifier indicates to the ME how the icon is to be used.

b2, b1: 00: icon is not to be used and may not be present
01: icon is self-explanatory, i.e. if displayed, it replaces the LSA name

10: icon is not self-explanatory, i.e. if displayed, it shall be displayed together with the LSA name
11: RFU

Idle mode support:

Contents: The idle mode support is used to indicate whether the ME shall favour camping on the LSA cells in idle mode.

b3 = 0:Idle mode support disabled
b3 = 1:Idle mode support enabled

LSA indication for idle mode:

Contents: The LSA indication for idle mode is used to indicate whether or not the ME shall display the LSA name when the ME is camped on a cell within the LSA.

b4 = 0:LSA indication for idle mode disabled
b4 = 1:LSA indication for idle mode enabled

Bits b5 to b8 are RFU (see subclause 9.3).

- Icon Identifier

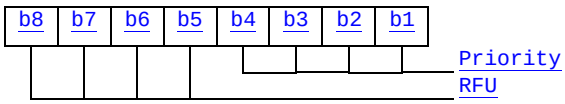
Contents: The icon identifier addresses a record in EF_{IMG}.

Coding: binary.

- Priority

Contents: Priority of the LSA which gives the ME the preference of this LSA relative to the other LSAs.

Coding:



'0' is lowest priority, 'F' is highest.

- PLMN code

Contents: MCC + MNC for the LSA.

Coding: according to GSM 24.008 [9] and EF_{LOCI}.

- LSA Descriptor File Identifier:

Contents: these bytes identify the EF which contains the LSA Descriptors forming the LSA.

Coding: byte X+8: high byte of the LSA Descriptor file;
byte X+9: low byte of the LSA Descriptor file.

- LSA Descriptor Record Identifier:

Contents: this byte identifies the number of the first record in the LSA Descriptor file forming the LSA.

Coding: binary.

4.4.x.3 LSA Descriptor files

Residing under DF_{SoLSA}, there may be several LSA Descriptor files. These EFs contains one or more records again containing LSA Descriptors forming the LSAs. LSAs can be described in four different ways. As a list of LSA IDs, as a list of LAC + CIs, as a list of CIs or as a list of LACs. As the basic elements (LSA ID, LAC + CI, CI and LAC) of the four types of lists are of different length, they can not be mixed within one record. Different records may contain different kinds of lists within the EFs. Examples of codings of LSA Descriptor files can be found in annex F.

Identifier: '4FXX'	Structure: linear fixed	Optional
Record length: n*X+2 bytes	Update activity: low	

Access Conditions:

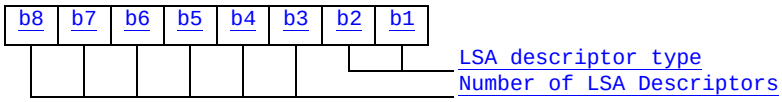
READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1	LSA descriptor type and number	M	1 byte
2 to X+1	1st LSA Descriptor	M	X bytes
X+2 to 2X+1	2nd LSA Descriptor	M	X bytes
(n-1)*X+2 to n*X+1	nth LSA Descriptor	M	X bytes
n*X+2	Record Identifier	M	1 byte

- LSA descriptor type and number:

  Contents: The LSA descriptor type gives the format of the LSA descriptor and the number of valid LSA Descriptors within the record.

  Coding:



  LSA descriptor type:

  Contents: Gives the format of the LSA Descriptors.

  b2, b1: 00: LSA ID.
  01: LAC + CI
  10: CI
  11: LAC

  Number of LSA Descriptors:

  Contents: Gives the number of valid LSA Descriptors in the record.

  Coding: binary, with b8 as MSB and b3 as LSB leaving room for 64 LSA Descriptors per record.

- LSA Descriptor

  Contents: Dependant of the coding indicated in the LSA descriptor type:

  - in case of LSA ID the field length 'X' is 3 bytes;
  - in case of LAC + CI the field length 'X' is 4 bytes;
  - in case of CI the field length 'X' is 2 bytes;
  - in case of LAC the field length 'X' is 2 bytes.

Coding: according to TS 24.008 [9].

- Record Identifier:

  Contents: This byte identifies the number of the next record containing the LSA Descriptors forming the LSA.

  Coding: record number of next record. 'FF' identifies the end of the chain.

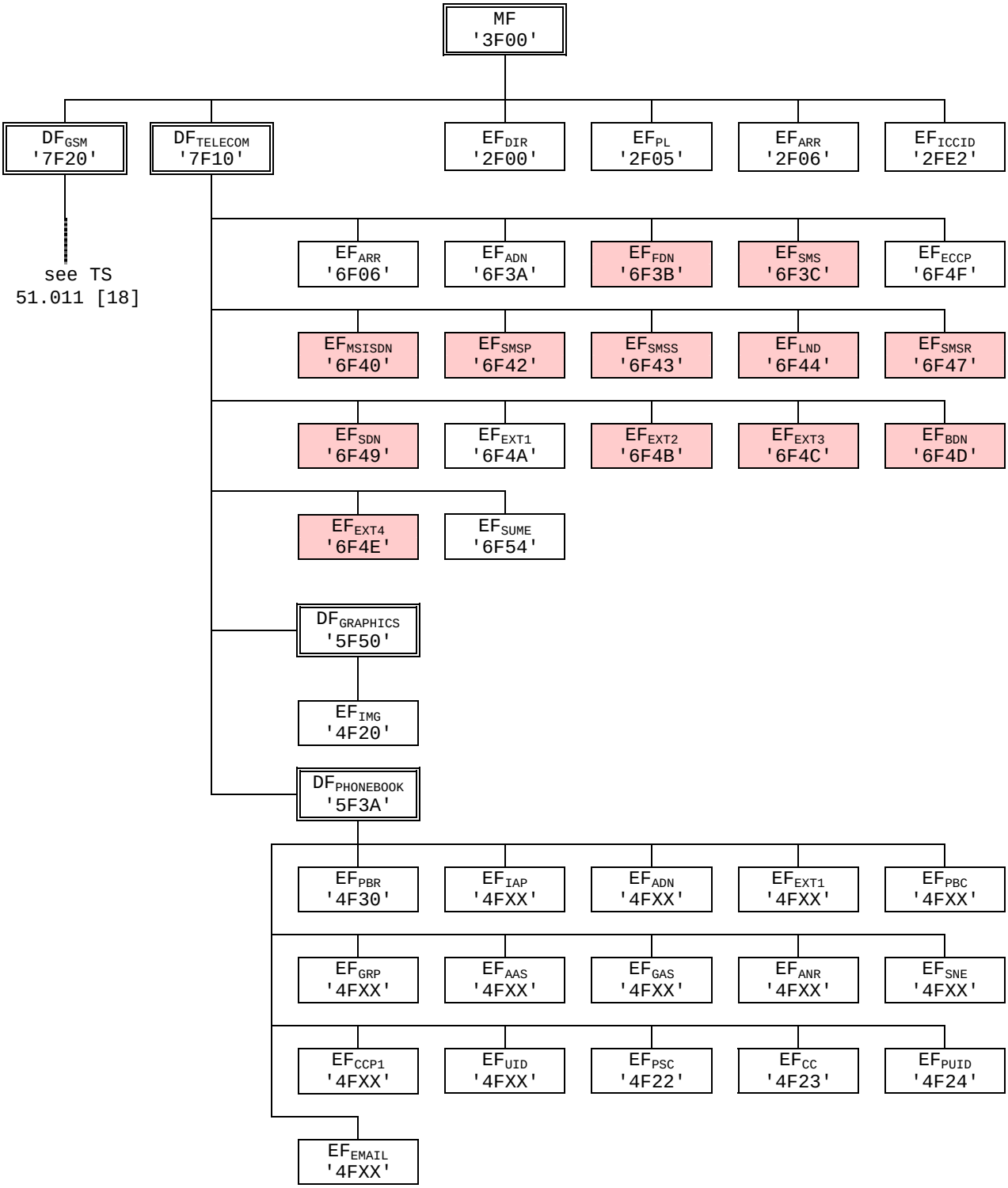
This file utilises the concept of chaining as for EF_{EXT1}.

The identifier '4FXX' shall be different from one LSA Descriptor file to the other and different from the identifiers of EF_{SAI} and EF_{SLL}. For the range of 'XX', see subclause x.x.

[…]

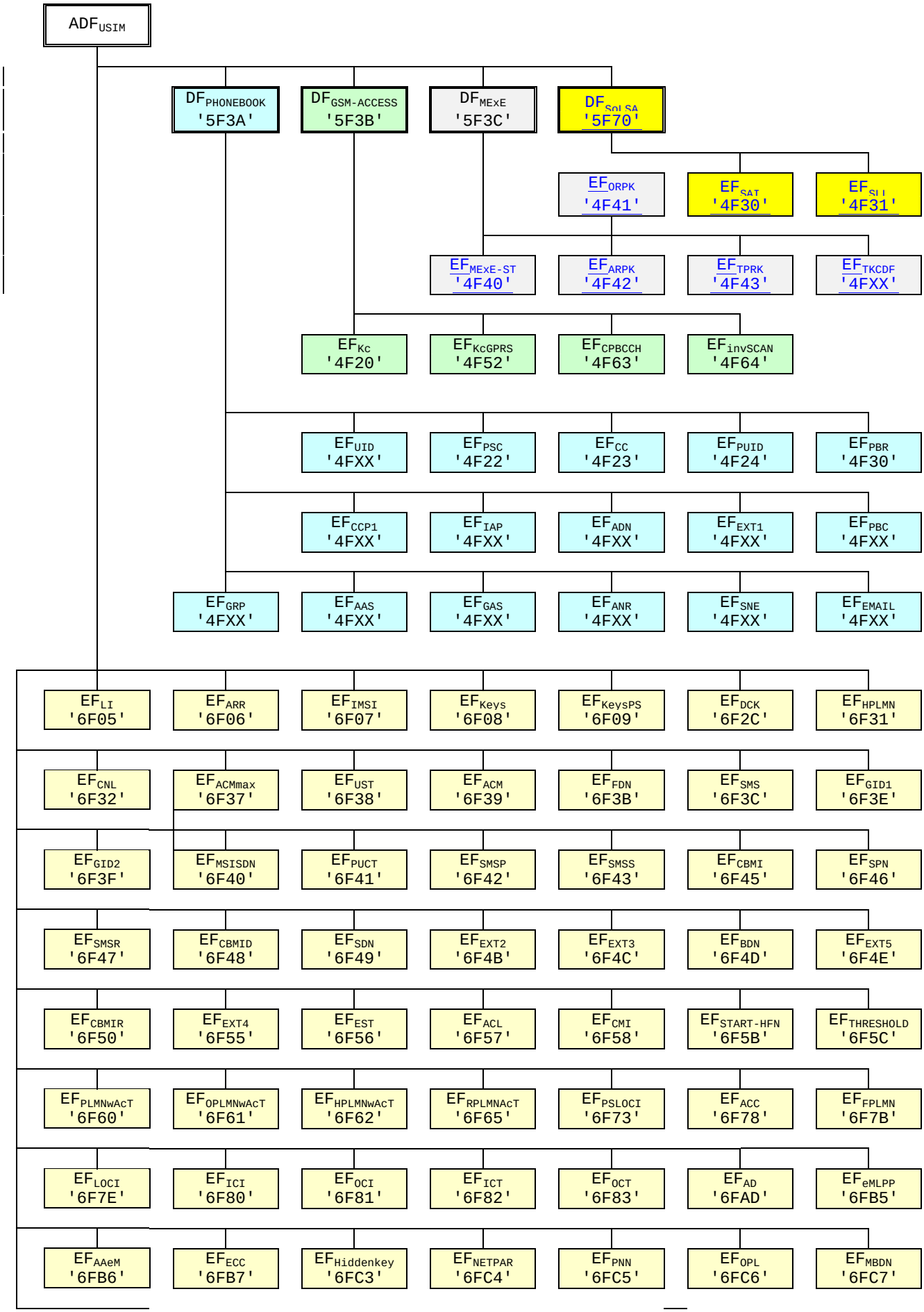
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


ADF USIM
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
DF SoLSA '5F70'
EF ORPK '4F41'
EF SAT '4F30'
EF SLI '4F31'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF TKCDF '4FXX'
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 '4FXX'
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'

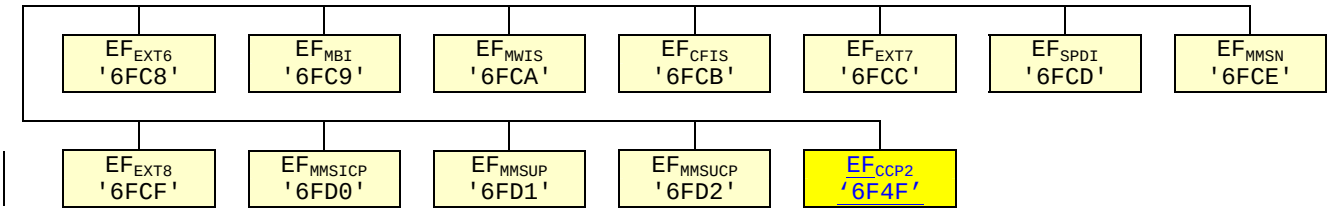


Figure 4.2: File identifiers and directory structures of USIM

~~DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).~~

5.2.x LSA information

- Requirement: Service n°23 "available".
- Request: The ME performs the reading procedure with EF_{SAI}, EF_{SLL} and its associated LSA Descriptor files.
- Update: The ME performs the updating procedure with EF_{SLL}.

[…]

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
'4F30'	SoLSA Access Indicator	Caution
'4F31'	SoLSA LSA List	Caution
'4FXX'	LSA Descriptor files	Caution
'4F52'	GPRS Ciphring 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
'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
'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
'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
'6F65'	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
'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
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
'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 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'
'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'
'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
'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’
‘6FD1’	MMS User Preferences	‘FF…FF’
‘6FD2’	MMS User Connectivity Parameters	‘FF…FF’

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

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

~~Void.~~

The length of all the records is determined by the LSA descriptor containing the largest number of bytes. Combinations containing different numbers of LSA IDs, LAC+ CI and CI or LAC can therefore be done. Various examples are show. Due to the OTA management of the records it is recommended that the record length is maximum 100 bytes in order to leave room for command descriptor and signature information in the SMS.

This first example contains two LSAs, one described by two LSA IDs and another described by three Cell IDs, giving a record length of 8 bytes.

1st record:	LSA descriptor type = LSA ID and number = 2 (1 byte)	LSA ID (3 bytes)	LSA ID (3 bytes)	Identifier (1 byte)	
2nd record:	LSA descriptor type = CI and number = 3 (1 byte)	CI (2 bytes)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

The second example contains two LSAs, one described by one LSA ID and one described by two Cell Ids, giving a record length of 6 bytes.

1st record:	LSA descriptor type = LSA ID and number = 1 (1 byte)	LSA ID (3 bytes)	'FF'	Identifier (1 byte)
2nd record:	LSA descriptor type = CI and number = 2 (1 byte)	CI (2 bytes)	CI (2 bytes)	Identifier (1 byte)

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030997⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 178 ⌘**rev** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – ASCI Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, files related to ASCI service.
Summary of change:	⌘	Add VGCS Group Identifier support to USIM Service Table (UST) Add VBS Group Identifier support to USIM Service Table (UST) Add EF VGCS, EF VGCSS, EF VBS and EF VBSS under ADFusim to have a similar content as under DFgsm specified in TS 51.011 Add EF VGCS, EF VGCSS, EF VBS and EF VBSS to the graphical representation of the file system. Add Proceedure for Voice Group Call Services Add Proceedure for Voice Broadcast Services Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D.
Consequences if not approved:	⌘	GSM ASCI services not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.3, 4.2.x, 4.7, 5.2.x, Annex A, Annex D

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

Other comments:	⌘	A separate CR is raised for the SIM files related to SoLSA

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°55	MMS User Connectivity Parameters
	Service n°xx	VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
	Service n°yy	VBS Group Identifier List (EF_{VBS} and EF_{VBSS})

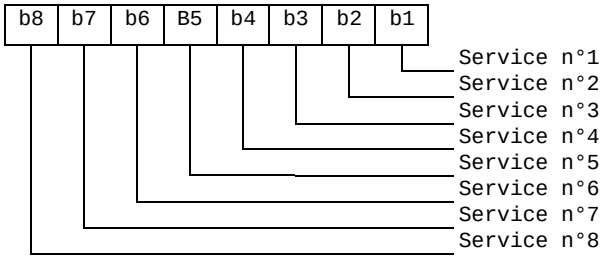
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

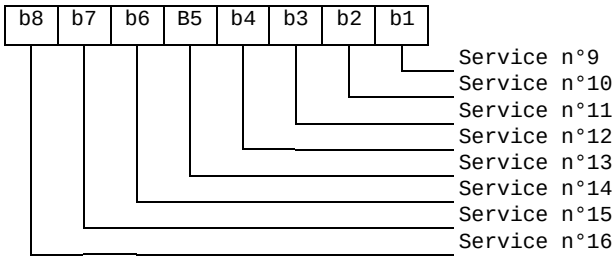
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

[…]

4.2.x EF$_{VGCS}$ (Voice Group Call Service)

This EF contains a list of those VGCS group identifiers the user has subscribed to. The elementary file is used by the ME for group call establishment and group call reception.

Identifier: '6FB1'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 8	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

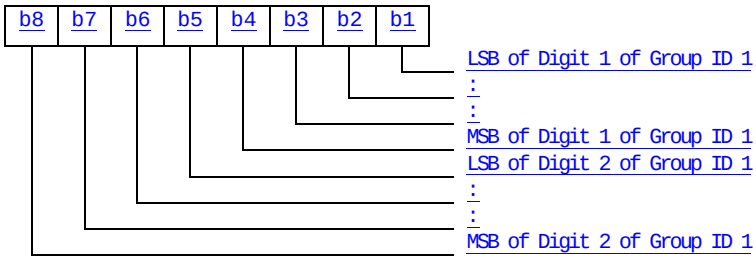
- Group ID

Contents: VGCS Group ID, according to TS 23.003 [25]

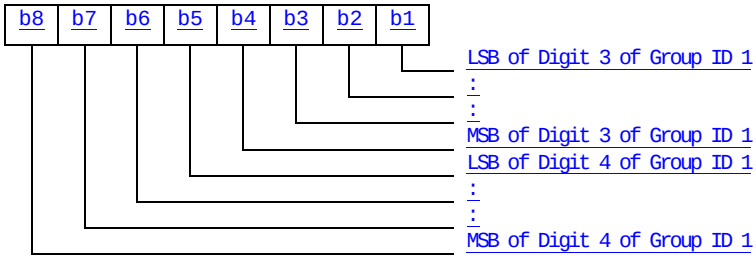
Coding:

The VGCS Group ID is of a variable length with a maximum length of 8 digits. Each VGCS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VGCS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VGCS Group ID Digit 1 is the most significant digit of the Group ID.

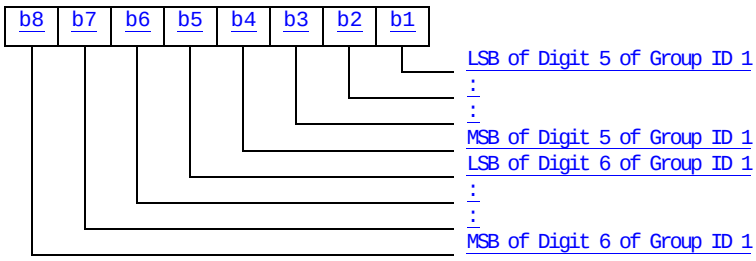
Byte 1:



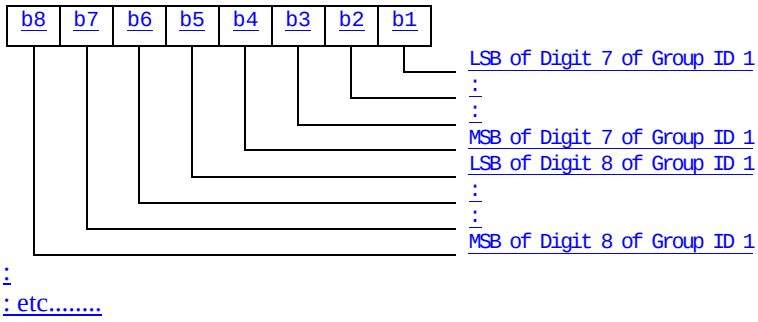
Byte 2:



Byte 3:

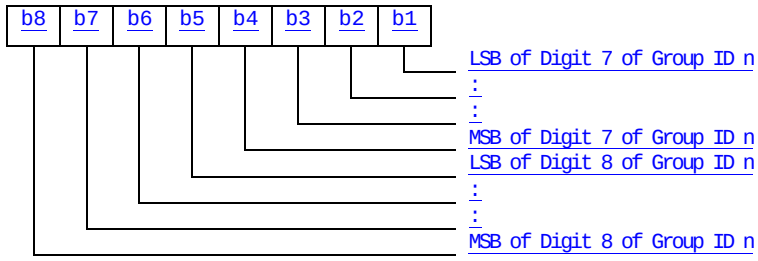


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VGCS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF$_{VGCSS}$ (Voice Group Call Service Status)

This EF contains the status of activation for the VGCS group identifiers. The elementary file is directly related to the EF$_{VGCS}$. This EF shall always be allocated if EF$_{VGCS}$ is allocated.

Identifier: '6FB2'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

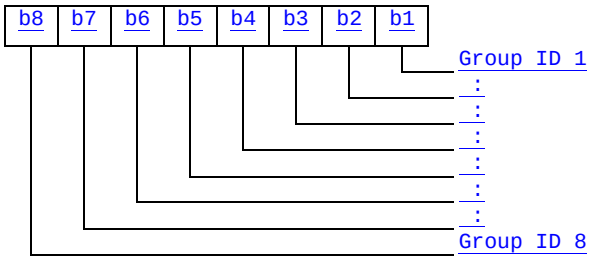
Contents: Activation/Deactivation Flags of the appropriate Group IDs

Coding:

bit = 0 means - Group ID deactivated

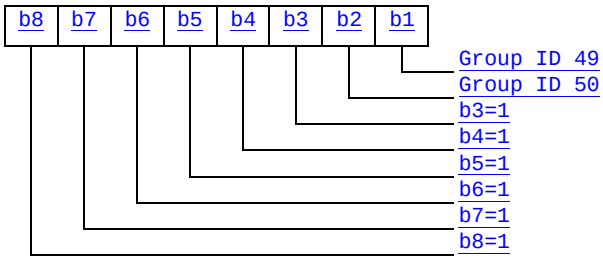
bit = 1 means - Group ID activated

Byte 1:



etc : : : : : : : :

Byte 7:



4.2.x EF$_{VBS}$ (Voice Broadcast Service)

This EF contains a list of those VBS group identifiers the user has subscribed to. The elementary file is used by the ME for broadcast call establishment and broadcast call reception.

Identifier: '6FB3'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 2	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

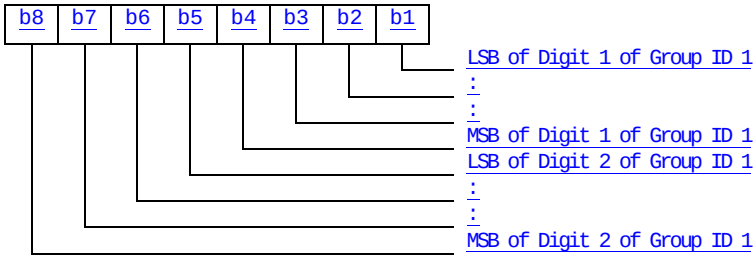
- Group ID

Contents: VBS Group ID, according to TS 23.003 [25]

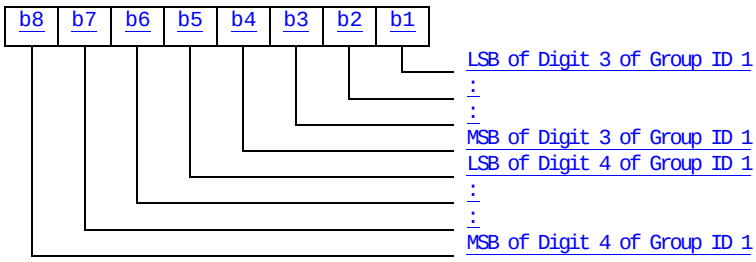
Coding:

The VBS Group ID is of a variable length with a maximum length of 8 digits. Each VBS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VBS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VBS Group ID Digit 1 is the most significant digit of the Group ID.

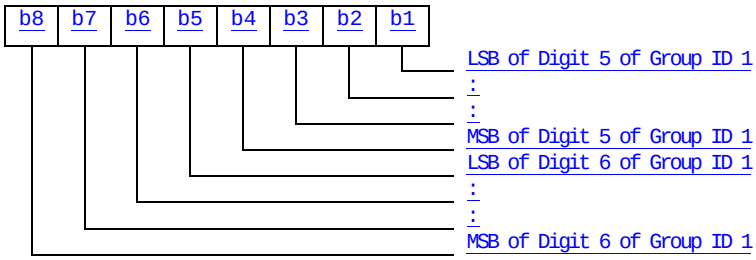
Byte 1:



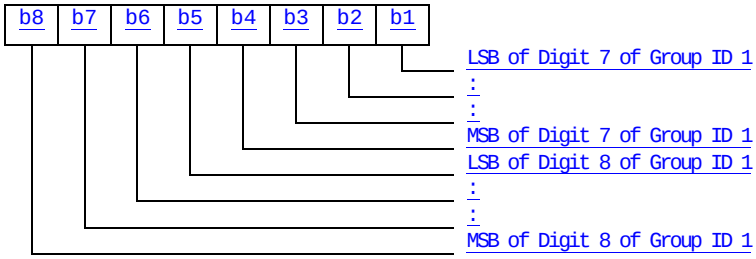
Byte 2:



Byte 3:

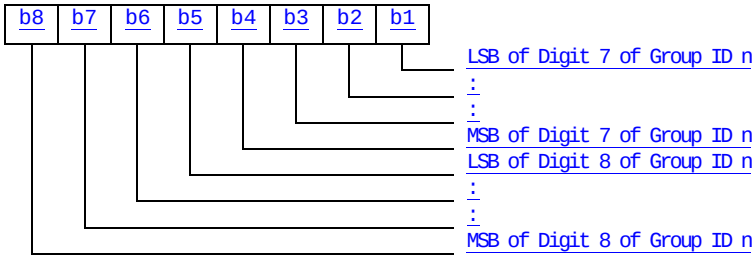


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VBS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF_{VBSS} (Voice Broadcast Service Status)

This EF contains the status of activation for the VBS group identifiers. The elementary file is directly related to the EF_{VBS}. This EF shall always be allocated if EF_{VBS} is allocated.

Identifier: '6FB4'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

  Contents: Activation/Deactivation Flags of the appropriate Group IDs

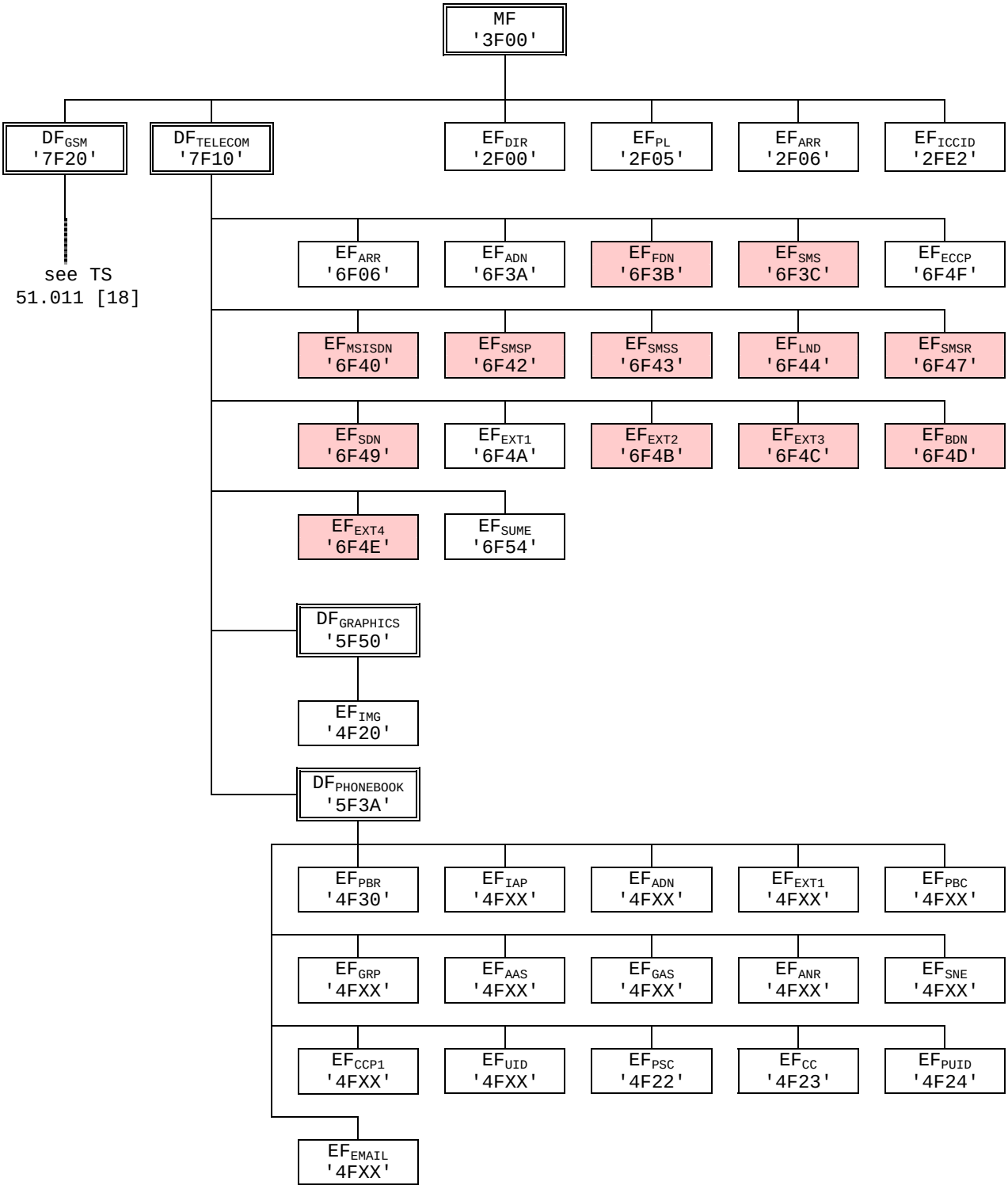
  Coding:

  see coding of EF_{VGCS}

[…]

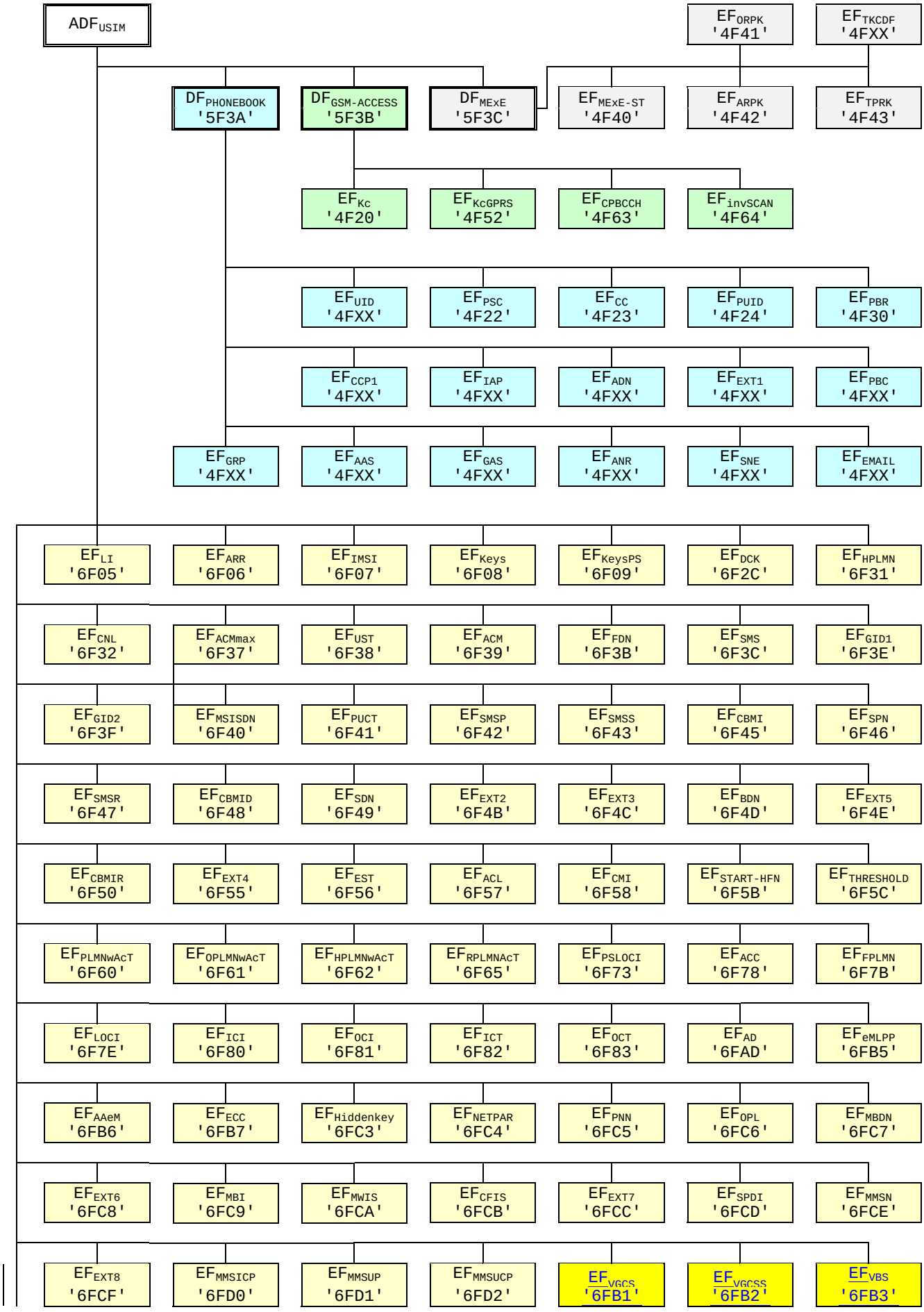
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


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 '4FXX'
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 '6FD2'
EF VGCS '6FB1'
EF VGCSS '6FB2'
EF VBS '6FB3'

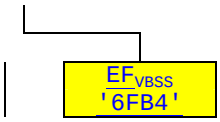


Figure 4.2: File identifiers and directory structures of USIM

5.2.x Voice Group Call Services

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

Voice Group Call Service

Request: The ME performs the reading procedure with EF_{VGCS}.

Voice Group Call Service Status

Request: The ME performs the reading procedure with EF_{VGCSS}.

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

5.2.X Voice Broadcast Services

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

Voice Broadcast Service

Request: The ME performs the reading procedure with EF_{VBS}.

Voice Broadcast Service Status

Request: The ME performs the reading procedure with EF_{VBSS}.

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

[…]

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
'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
'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
'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
'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
'6F65'	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
'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
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'
'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'
'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
'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	'FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030998⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 179 ⌘**rev** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – ASCI Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, files related to ASCI service.
Summary of change:	⌘	Add VGCS Group Identifier support to USIM Service Table (UST) Add VBS Group Identifier support to USIM Service Table (UST) Add EF VGCS, EF VGCSS, EF VBS and EF VBSS under ADFusim to have a similar content as under DFgsm specified in TS 51.011 Add EF VGCS, EF VGCSS, EF VBS and EF VBSS to the graphical representation of the file system. Add Proceedure for Voice Group Call Services Add Proceedure for Voice Broadcast Services Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D.
Consequences if not approved:	⌘	GSM ASCI services not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.3, 4.2.x, 4.7, 5.2.x, Annex A, Annex D

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

Other comments:	⌘	A separate CR is raised for the SIM files related to SoLSA

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°55	MMS User Connectivity Parameters
	Service n°xx	VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
	Service n°yy	VBS Group Identifier List (EF_{VBS} and EF_{VBSS})

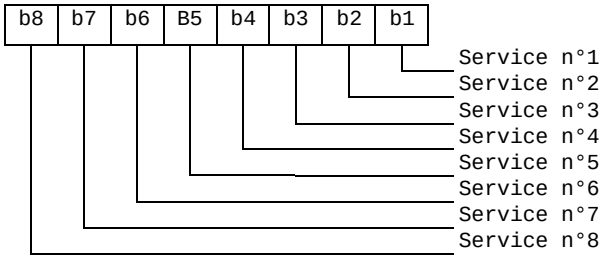
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

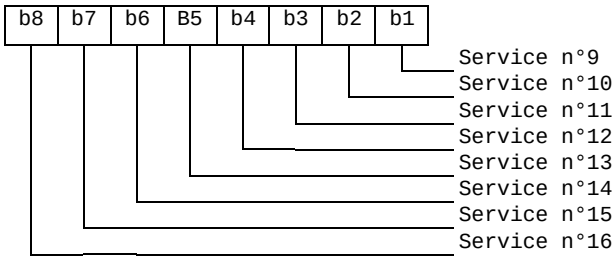
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

[…]

4.2.x EF$_{VGCS}$ (Voice Group Call Service)

This EF contains a list of those VGCS group identifiers the user has subscribed to. The elementary file is used by the ME for group call establishment and group call reception.

Identifier: '6FB1'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 8	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

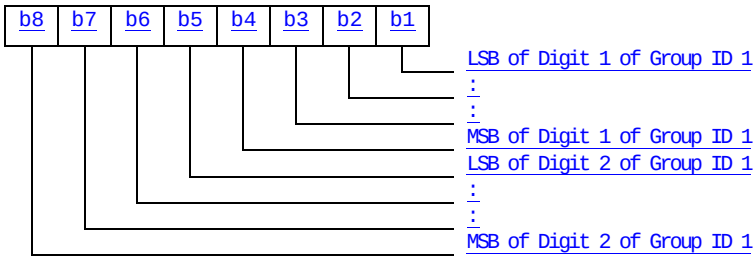
- Group ID

Contents: VGCS Group ID, according to TS 23.003 [25]

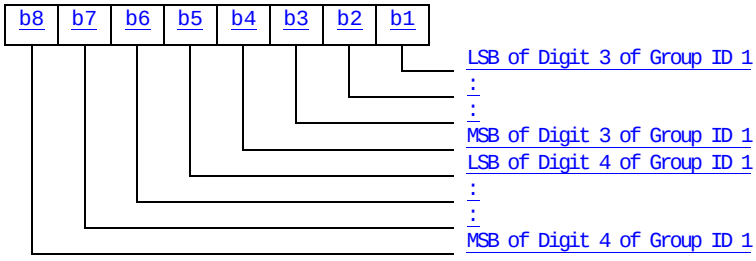
Coding:

The VGCS Group ID is of a variable length with a maximum length of 8 digits. Each VGCS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VGCS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VGCS Group ID Digit 1 is the most significant digit of the Group ID.

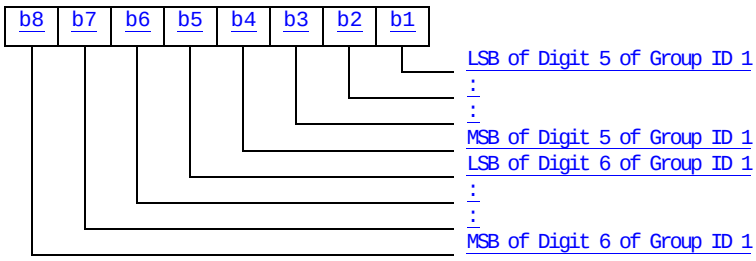
Byte 1:



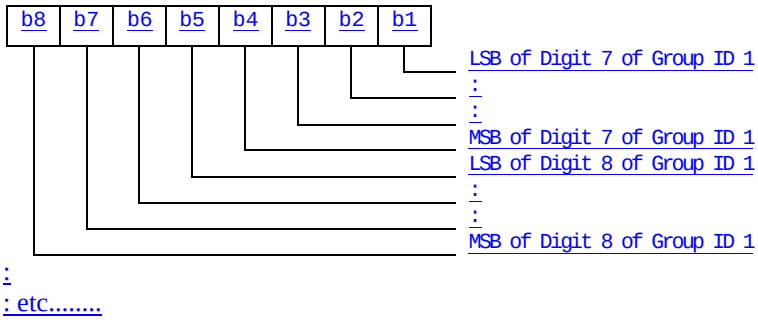
Byte 2:



Byte 3:

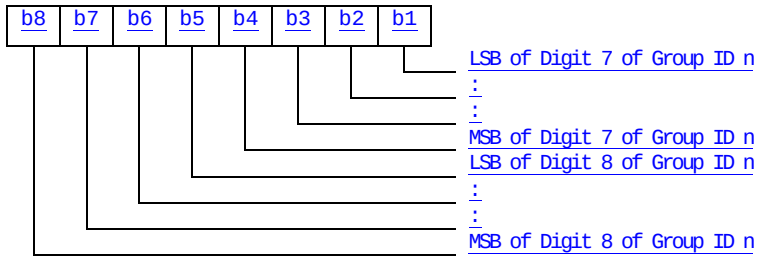


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VGCS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF$_{VGCSS}$ (Voice Group Call Service Status)

This EF contains the status of activation for the VGCS group identifiers. The elementary file is directly related to the EF$_{VGCS}$. This EF shall always be allocated if EF$_{VGCS}$ is allocated.

Identifier: '6FB2'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

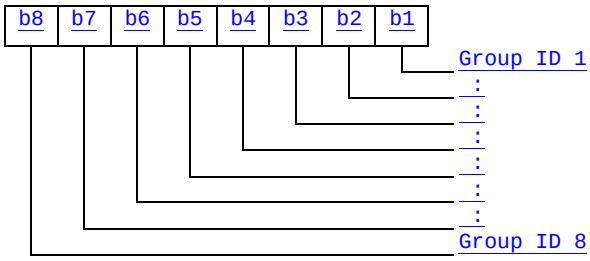
Contents: Activation/Deactivation Flags of the appropriate Group IDs

Coding:

bit = 0 means - Group ID deactivated

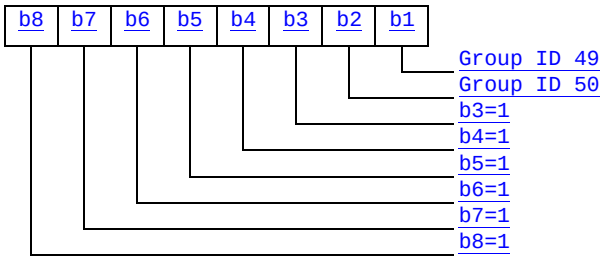
bit = 1 means - Group ID activated

Byte 1:



etc : : : : : : : :

Byte 7:



4.2.x EF$_{VBS}$ (Voice Broadcast Service)

This EF contains a list of those VBS group identifiers the user has subscribed to. The elementary file is used by the ME for broadcast call establishment and broadcast call reception.

Identifier: '6FB3'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 2	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

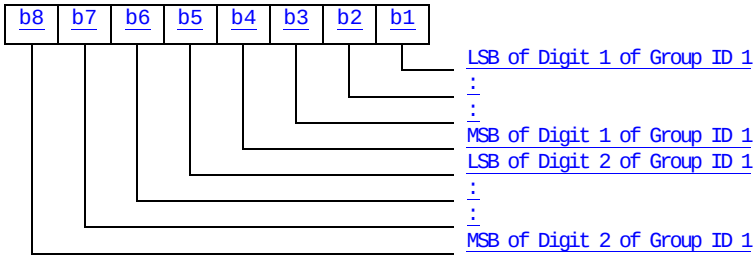
- Group ID

Contents: VBS Group ID, according to TS 23.003 [25]

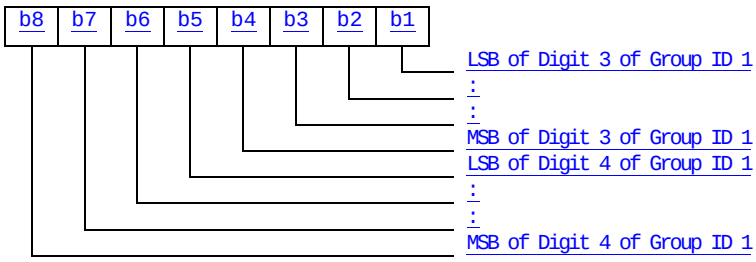
Coding:

The VBS Group ID is of a variable length with a maximum length of 8 digits. Each VBS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VBS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VBS Group ID Digit 1 is the most significant digit of the Group ID.

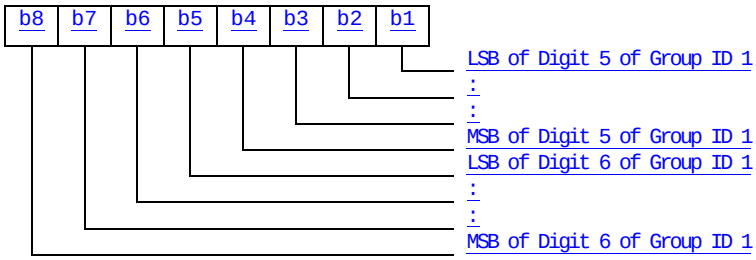
Byte 1:



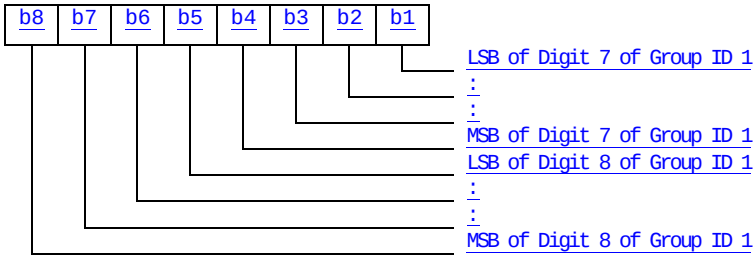
Byte 2:



Byte 3:

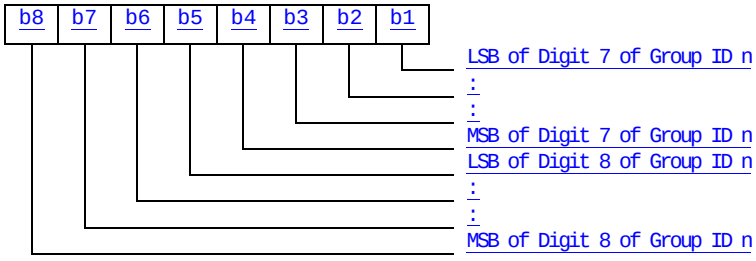


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VBS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF_{VBSS} (Voice Broadcast Service Status)

This EF contains the status of activation for the VBS group identifiers. The elementary file is directly related to the EF_{VBS}. This EF shall always be allocated if EF_{VBS} is allocated.

Identifier: '6FB4'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

  Contents: Activation/Deactivation Flags of the appropriate Group IDs

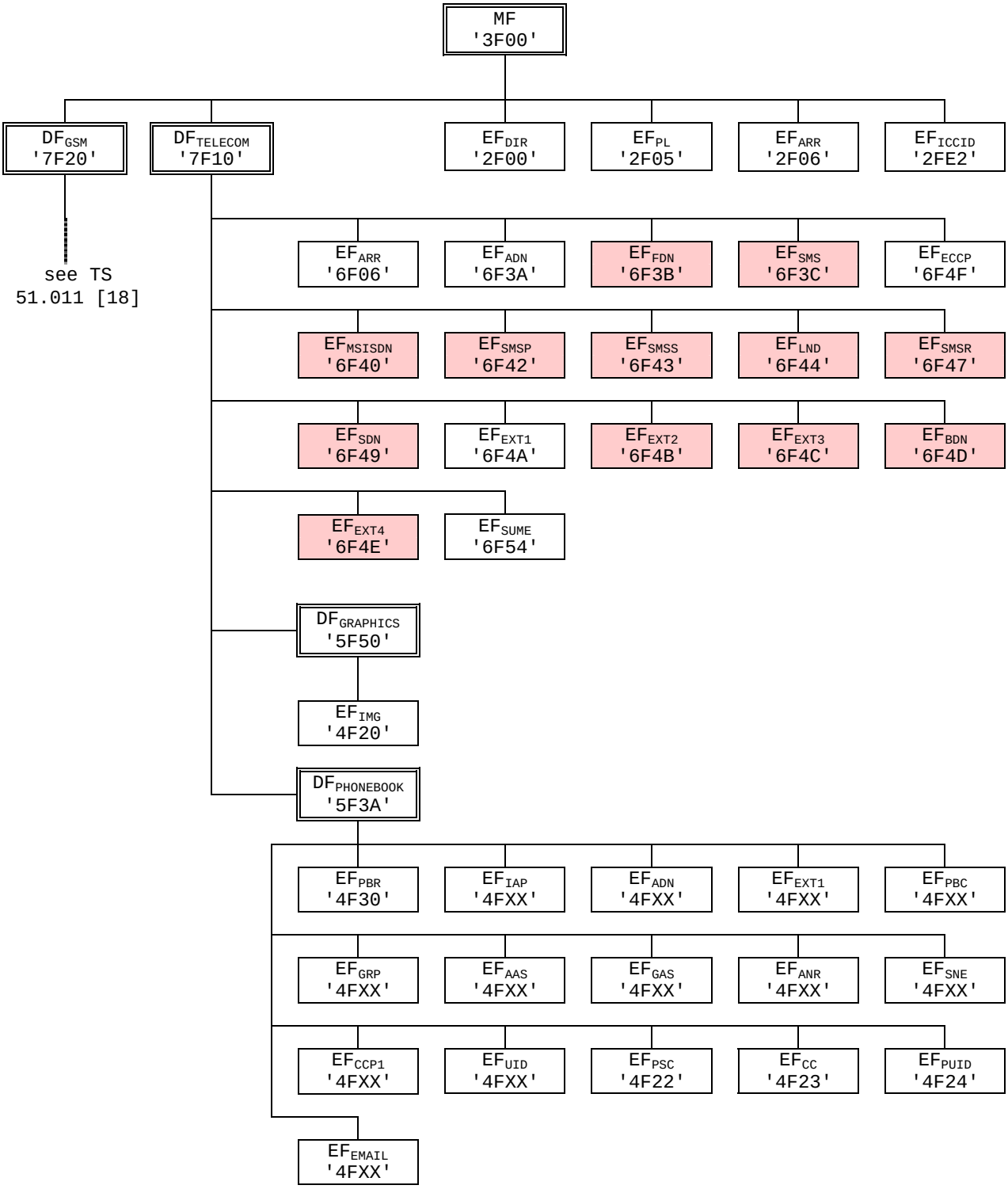
  Coding:

  see coding of EF_{VGCS}

[…]

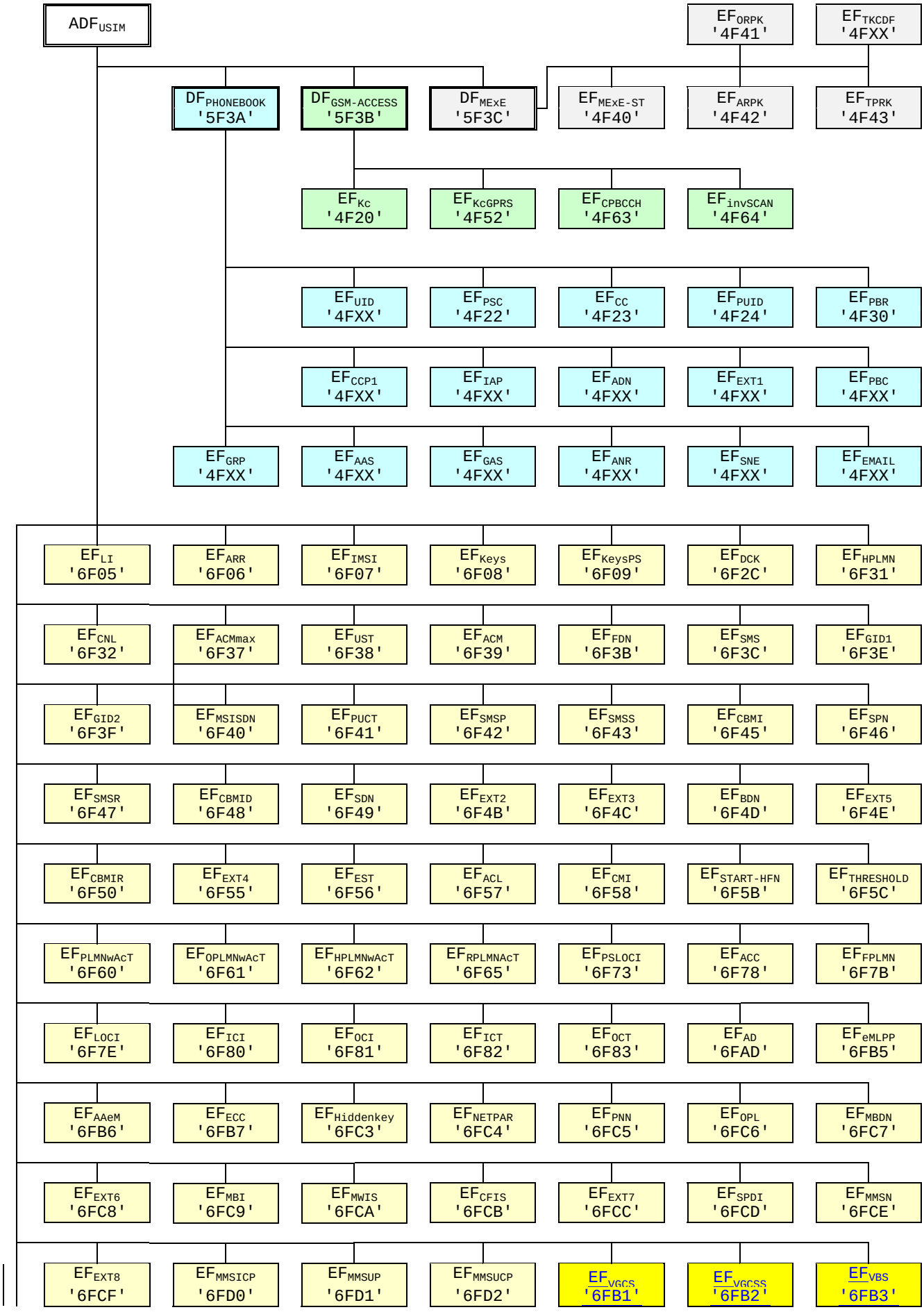
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


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 '4FXX'
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 '6FD2'
EF VGCS '6FB1'
EF VGCSS '6FB2'
EF VBS '6FB3'

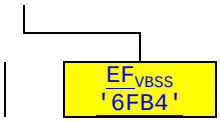


Figure 4.2: File identifiers and directory structures of USIM

5.2.x Voice Group Call Services

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

Voice Group Call Service

Request: The ME performs the reading procedure with EF_{VGCS}.

Voice Group Call Service Status

Request: The ME performs the reading procedure with EF_{VGCSS}.

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

5.2.X Voice Broadcast Services

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

Voice Broadcast Service

Request: The ME performs the reading procedure with EF_{VBS}.

Voice Broadcast Service Status

Request: The ME performs the reading procedure with EF_{VBSS}.

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

[…]

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
'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
'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
'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
'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
'6F65'	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
'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
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'
'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'
'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
'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	'FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-030999⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 180 ⌘**rev** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – ASCI Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, files related to ASCI service.
Summary of change:	⌘	Add VGCS Group Identifier support to USIM Service Table (UST) Add VBS Group Identifier support to USIM Service Table (UST) Add EF VGCS, EF VGCSS, EF VBS and EF VBSS under ADFusim to have a similar content as under DFgsm specified in TS 51.011 Add EF VGCS, EF VGCSS, EF VBS and EF VBSS to the graphical representation of the file system. Add Proceedure for Voice Group Call Services Add Proceedure for Voice Broadcast Services Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D.
Consequences if not approved:	⌘	GSM ASCI services not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.3, 4.2.x, 4.7, 5.2.x, Annex A, Annex D

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

Other comments:	⌘	A separate CR is raised for the SIM files related to SoLSA

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°55	MMS User Connectivity Parameters
	Service n°xx	VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
	Service n°yy	VBS Group Identifier List (EF_{VBS} and EF_{VBSS})

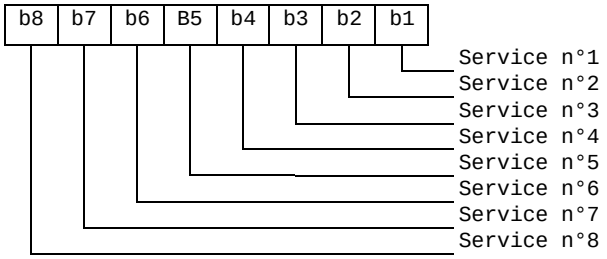
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

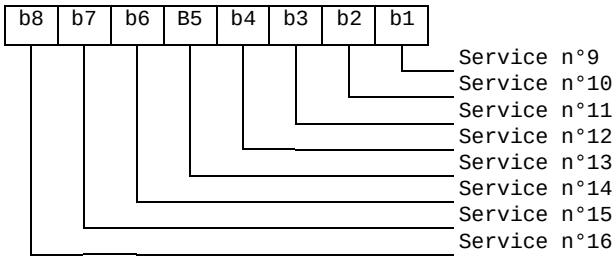
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

[…]

4.2.x EF$_{VGCS}$ (Voice Group Call Service)

This EF contains a list of those VGCS group identifiers the user has subscribed to. The elementary file is used by the ME for group call establishment and group call reception.

Identifier: '6FB1'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 8	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

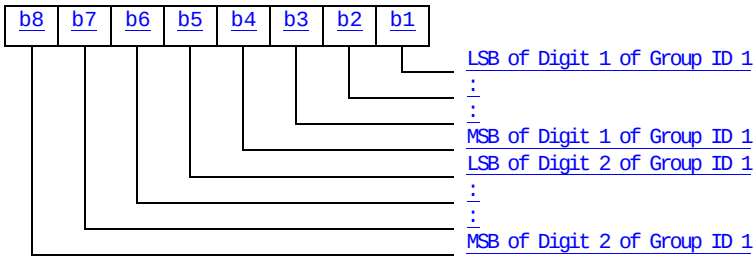
- Group ID

Contents: VGCS Group ID, according to TS 23.003 [25]

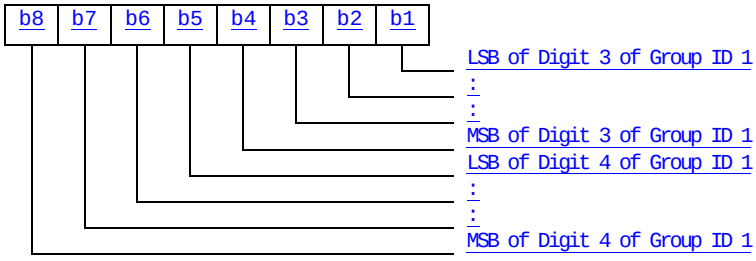
Coding:

The VGCS Group ID is of a variable length with a maximum length of 8 digits. Each VGCS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VGCS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VGCS Group ID Digit 1 is the most significant digit of the Group ID.

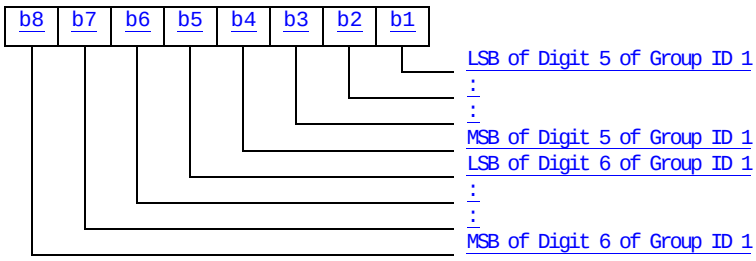
Byte 1:



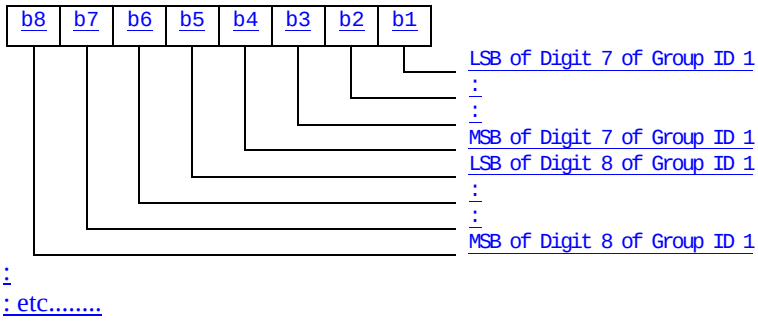
Byte 2:



Byte 3:

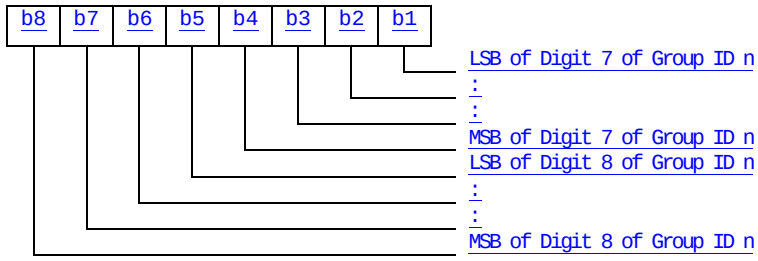


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VGCS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF$_{VGCSS}$ (Voice Group Call Service Status)

This EF contains the status of activation for the VGCS group identifiers. The elementary file is directly related to the EF$_{VGCS}$. This EF shall always be allocated if EF$_{VGCS}$ is allocated.

Identifier: '6FB2'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

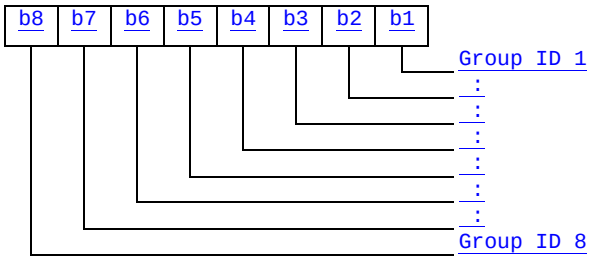
Contents: Activation/Deactivation Flags of the appropriate Group IDs

Coding:

bit = 0 means - Group ID deactivated

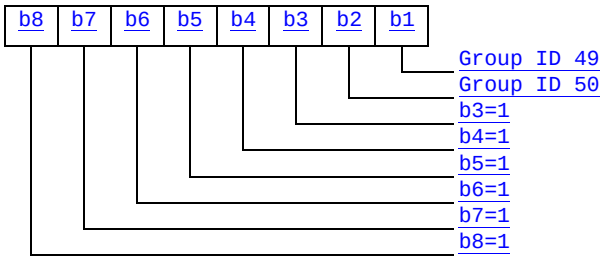
bit = 1 means - Group ID activated

Byte 1:



etc : : : : : : : :

Byte 7:



4.2.x EF$_{VBS}$ (Voice Broadcast Service)

This EF contains a list of those VBS group identifiers the user has subscribed to. The elementary file is used by the ME for broadcast call establishment and broadcast call reception.

Identifier: '6FB3'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 2	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

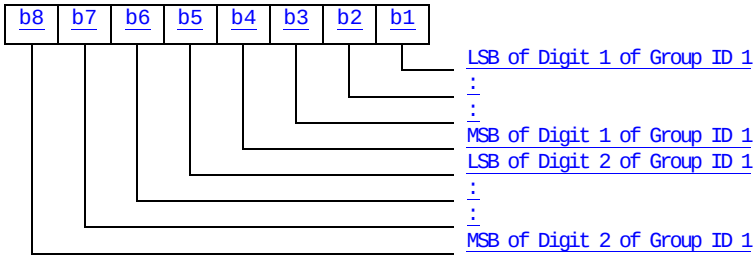
- Group ID

Contents: VBS Group ID, according to TS 23.003 [25]

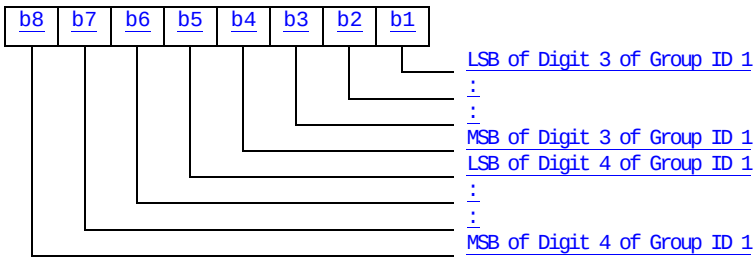
Coding:

The VBS Group ID is of a variable length with a maximum length of 8 digits. Each VBS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VBS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VBS Group ID Digit 1 is the most significant digit of the Group ID.

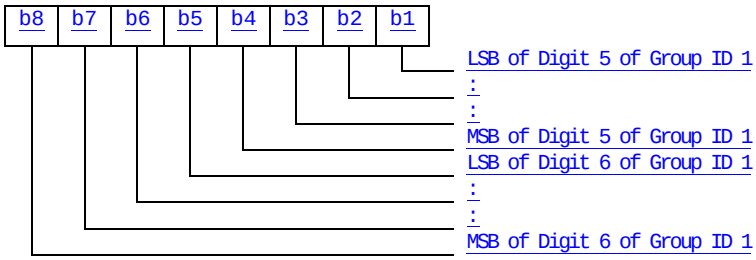
Byte 1:



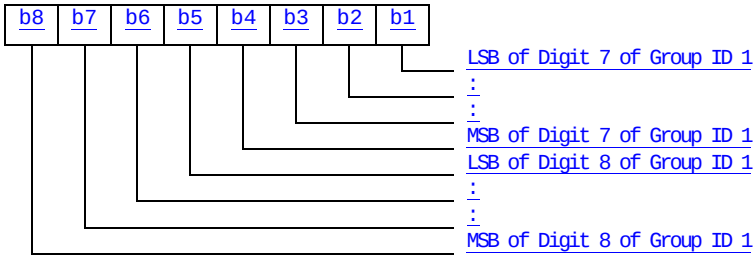
Byte 2:



Byte 3:

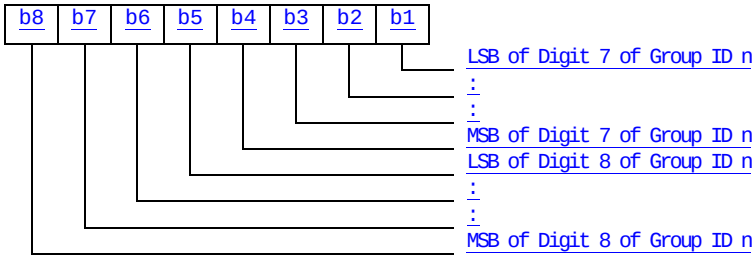


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VBS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF_{VBSS} (Voice Broadcast Service Status)

This EF contains the status of activation for the VBS group identifiers. The elementary file is directly related to the EF_{VBS}. This EF shall always be allocated if EF_{VBS} is allocated.

Identifier: '6FB4'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

  Contents: Activation/Deactivation Flags of the appropriate Group IDs

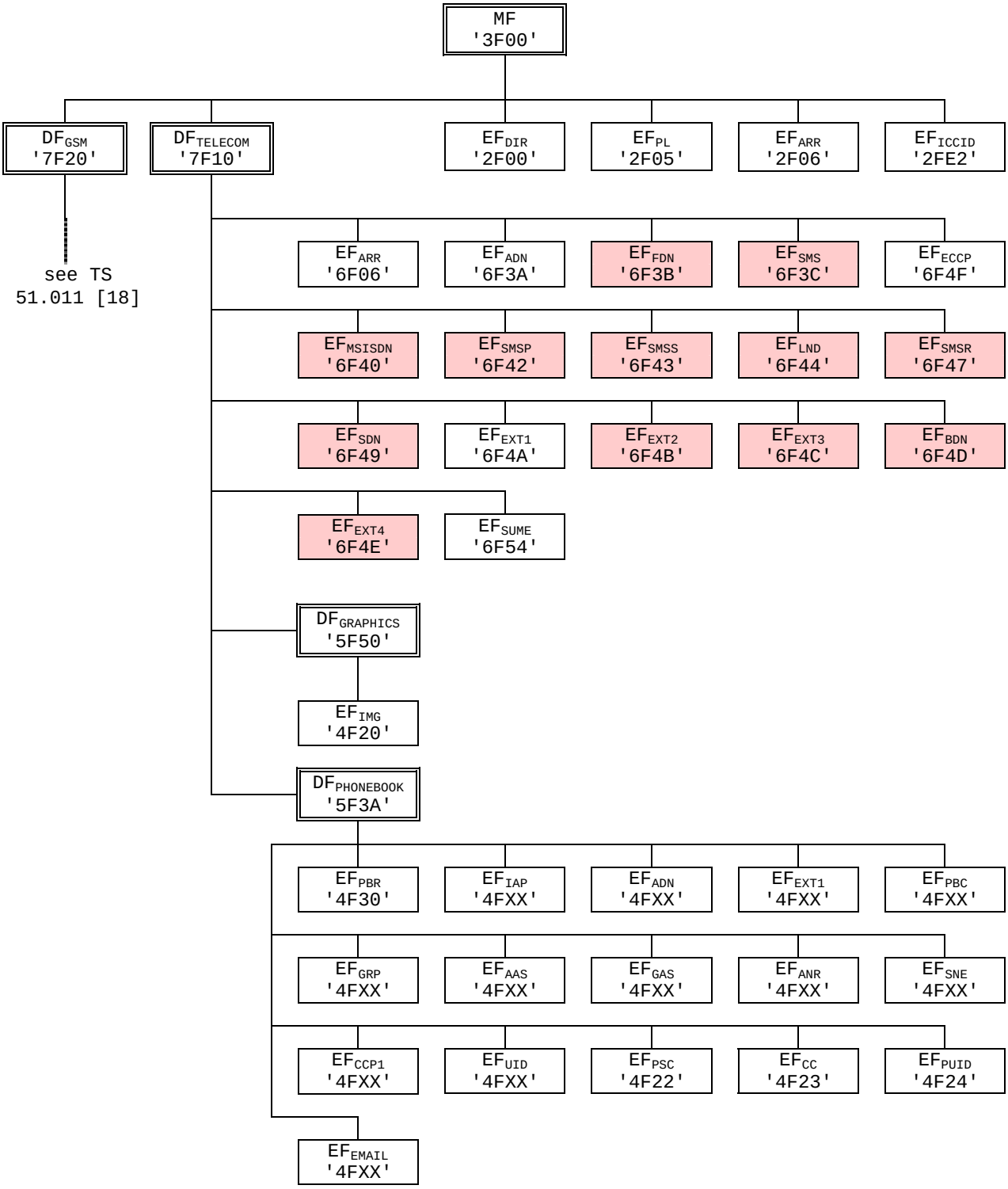
  Coding:

  see coding of EF_{VGCS}

[…]

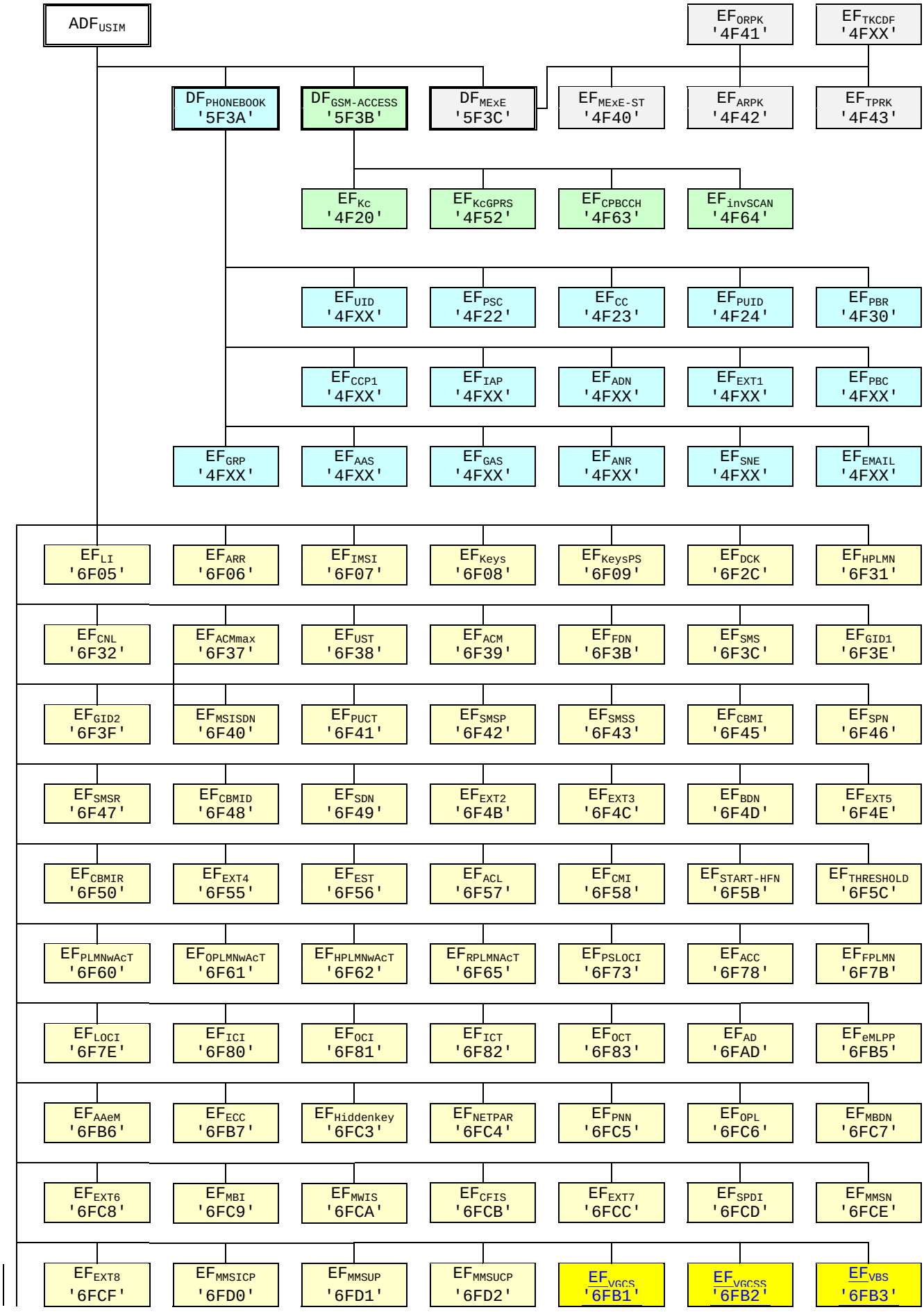
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


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 '4FXX'
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 '6FD2'
EF VGCS '6FB1'
EF VGCSS '6FB2'
EF VBS '6FB3'

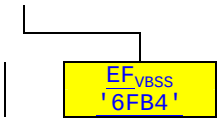


Figure 4.2: File identifiers and directory structures of USIM

5.2.x Voice Group Call Services

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

Voice Group Call Service

Request: The ME performs the reading procedure with EF_{VGCS}.

Voice Group Call Service Status

Request: The ME performs the reading procedure with EF_{VGCSS}.

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

5.2.X Voice Broadcast Services

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

Voice Broadcast Service

Request: The ME performs the reading procedure with EF_{VBS}.

Voice Broadcast Service Status

Request: The ME performs the reading procedure with EF_{VBSS}.

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

[…]

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
'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
'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
'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
'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
'6F65'	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
'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
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'
'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'
'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
'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	'FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

[…]

3GPP TSG-T3 Meeting #29
Dallas USA 18-21 November 2003

Tdoc T3-031000⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 181 ⌘**rev** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Corrections on files for support of GSM services using USIM – ASCI Files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	It has been clarified at the last TSG T meeting that R5 and beyond GERAN ME's shall support the USIM. Therefore TS 31.102 must be amended to allow for files pertaining to GSM specific services under ADFusim. This applies, files related to ASCI service.
Summary of change:	⌘	Add VGCS Group Identifier support to USIM Service Table (UST) Add VBS Group Identifier support to USIM Service Table (UST) Add EF VGCS, EF VGCSS, EF VBS and EF VBSS under ADFusim to have a similar content as under DFgsm specified in TS 51.011 Add EF VGCS, EF VGCSS, EF VBS and EF VBSS to the graphical representation of the file system. Add Proceedure for Voice Group Call Services Add Proceedure for Voice Broadcast Services Add suggested OTA abilities in Annex A. Add suggested contents at personalisation in Annex D.
Consequences if not approved:	⌘	GSM ASCI services not available when using a USIM.

Clauses affected:	⌘	4.2.8, 4.3, 4.2.x, 4.7, 5.2.x, Annex A, Annex D

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

Other comments:	⌘	A separate CR is raised for the SIM files related to SoLSA

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°55	MMS User Connectivity Parameters
	Service n°xx	VGCS Group Identifier List (EF_{VGCS} and EF_{VGCSS})
	Service n°yy	VBS Group Identifier List (EF_{VBS} and EF_{VBSS})

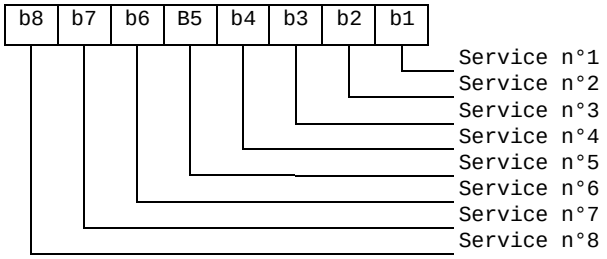
The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

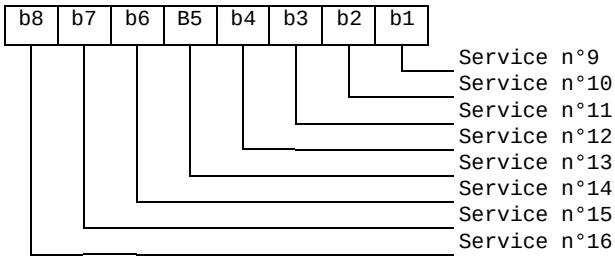
1 bit is used to code each service:
bit = 1: service available;
bit = 0: service not available.

- 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.

[…]

4.2.x EF$_{VGCS}$ (Voice Group Call Service)

This EF contains a list of those VGCS group identifiers the user has subscribed to. The elementary file is used by the ME for group call establishment and group call reception.

Identifier: '6FB1'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 8	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

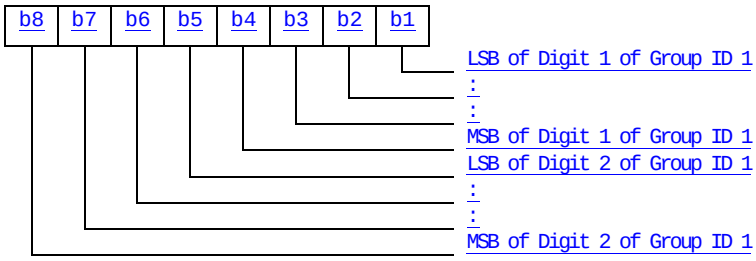
- Group ID

Contents: VGCS Group ID, according to TS 23.003 [25]

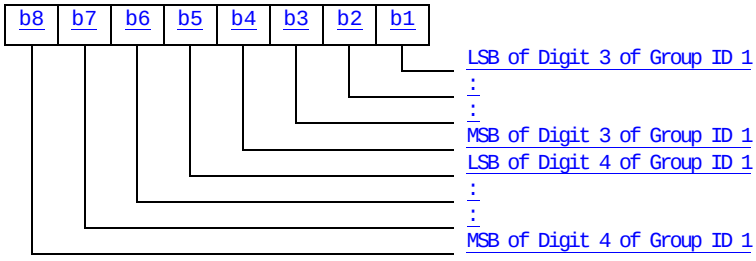
Coding:

The VGCS Group ID is of a variable length with a maximum length of 8 digits. Each VGCS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VGCS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VGCS Group ID Digit 1 is the most significant digit of the Group ID.

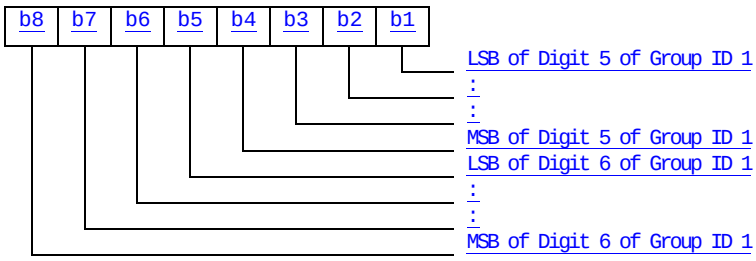
Byte 1:



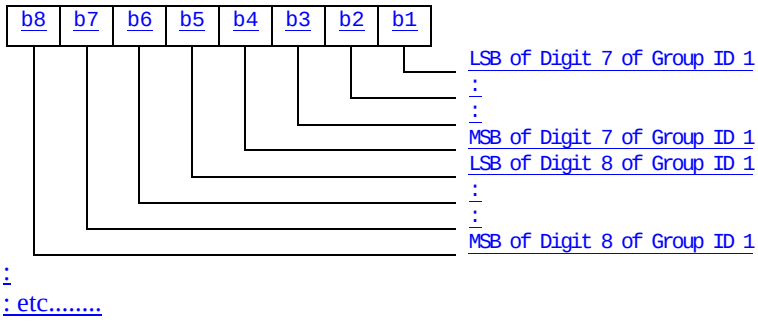
Byte 2:



Byte 3:

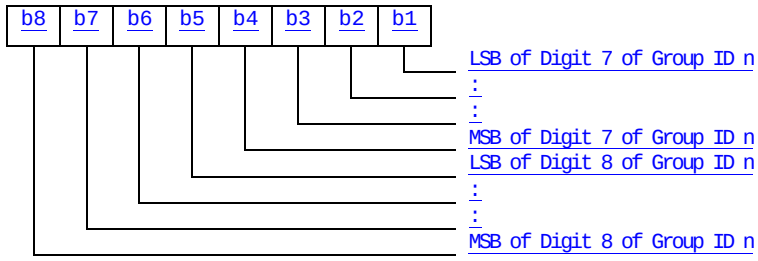


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VGCS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF$_{VGCSS}$ (Voice Group Call Service Status)

This EF contains the status of activation for the VGCS group identifiers. The elementary file is directly related to the EF$_{VGCS}$. This EF shall always be allocated if EF$_{VGCS}$ is allocated.

Identifier: '6FB2'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

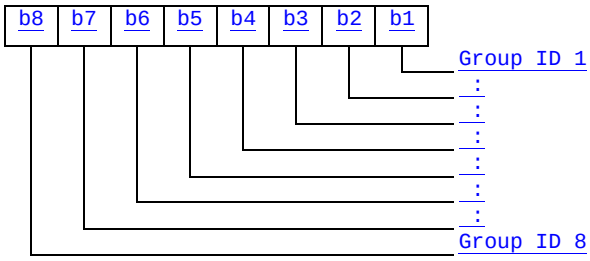
Contents: Activation/Deactivation Flags of the appropriate Group IDs

Coding:

bit = 0 means - Group ID deactivated

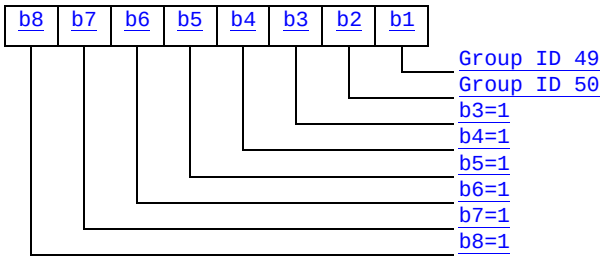
bit = 1 means - Group ID activated

Byte 1:



etc : : : : : : : :

Byte 7:



4.2.x EF$_{VBS}$ (Voice Broadcast Service)

This EF contains a list of those VBS group identifiers the user has subscribed to. The elementary file is used by the ME for broadcast call establishment and broadcast call reception.

Identifier: '6FB3'	Structure: transparent	Optional
File size: 4n bytes (n <= 50)	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 4	Group ID 1	M	4 bytes
5 to 2	Group ID 2	O	4 bytes
:	:	:	:
(4n-3) to 4n	Group ID n	O	4 bytes

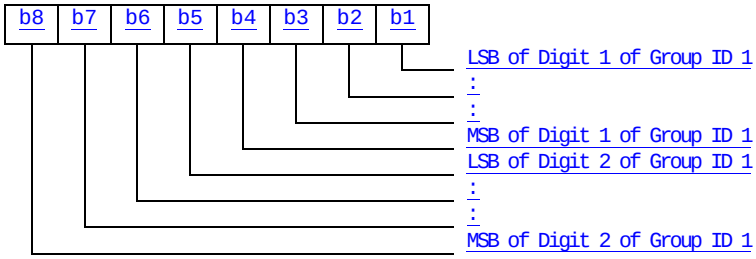
- Group ID

Contents: VBS Group ID, according to TS 23.003 [25]

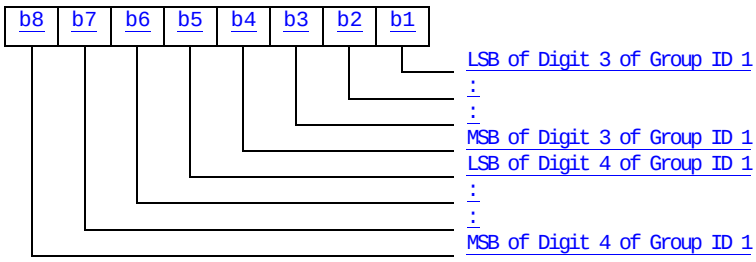
Coding:

The VBS Group ID is of a variable length with a maximum length of 8 digits. Each VBS Group ID is coded on four bytes, with each digit within the code being coded on four bits corresponding to BCD code. If a VBS Group ID of less than 8 digits is chosen, then the unused nibbles shall be set to 'F'. VBS Group ID Digit 1 is the most significant digit of the Group ID.

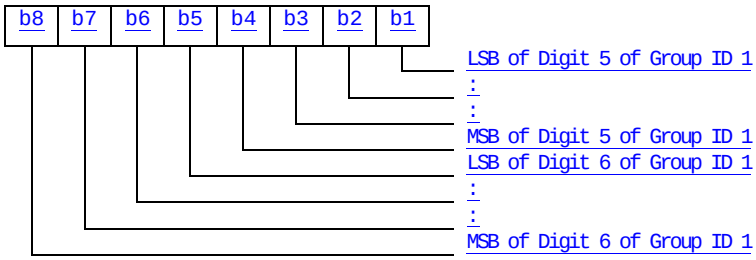
Byte 1:



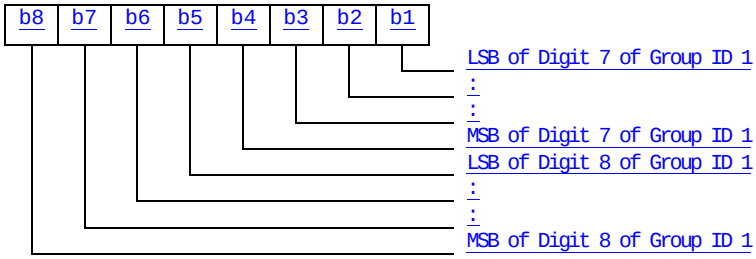
Byte 2:



Byte 3:

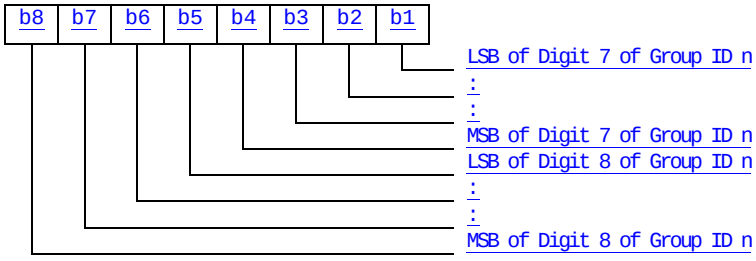


Byte 4:



:
: etc.....

Byte (4n-3) to 4n:



If storage for fewer than the maximum possible number *n* of VBS Group IDs, is required, the excess bytes shall be set to 'FF'.

4.2.x EF_{VBSS} (Voice Broadcast Service Status)

This EF contains the status of activation for the VBS group identifiers. The elementary file is directly related to the EF_{VBS}. This EF shall always be allocated if EF_{VBS} is allocated.

Identifier: '6FB4'	Structure: transparent	Optional
File size: 7 bytes	Update activity: low	

Access Conditions:

READ	CHV1
UPDATE	ADM
INVALIDATE	ADM
REHABILITATE	ADM

Bytes	Description	M/O	Length
1 to 7	Activation/Deactivation Flags	M	7 bytes

- Activation/Deactivation Flags

  Contents: Activation/Deactivation Flags of the appropriate Group IDs

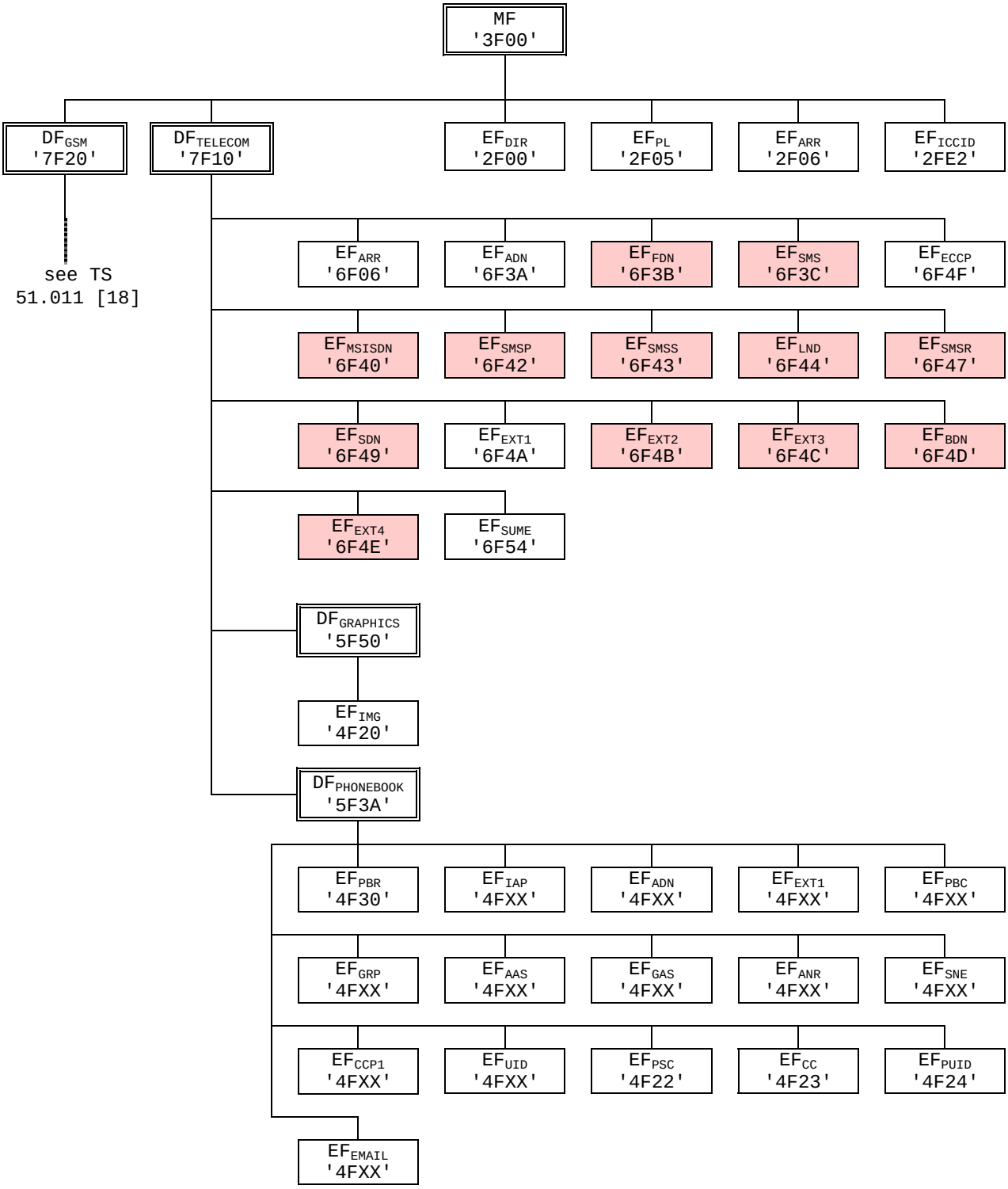
  Coding:

  see coding of EF_{VGCS}

[…]

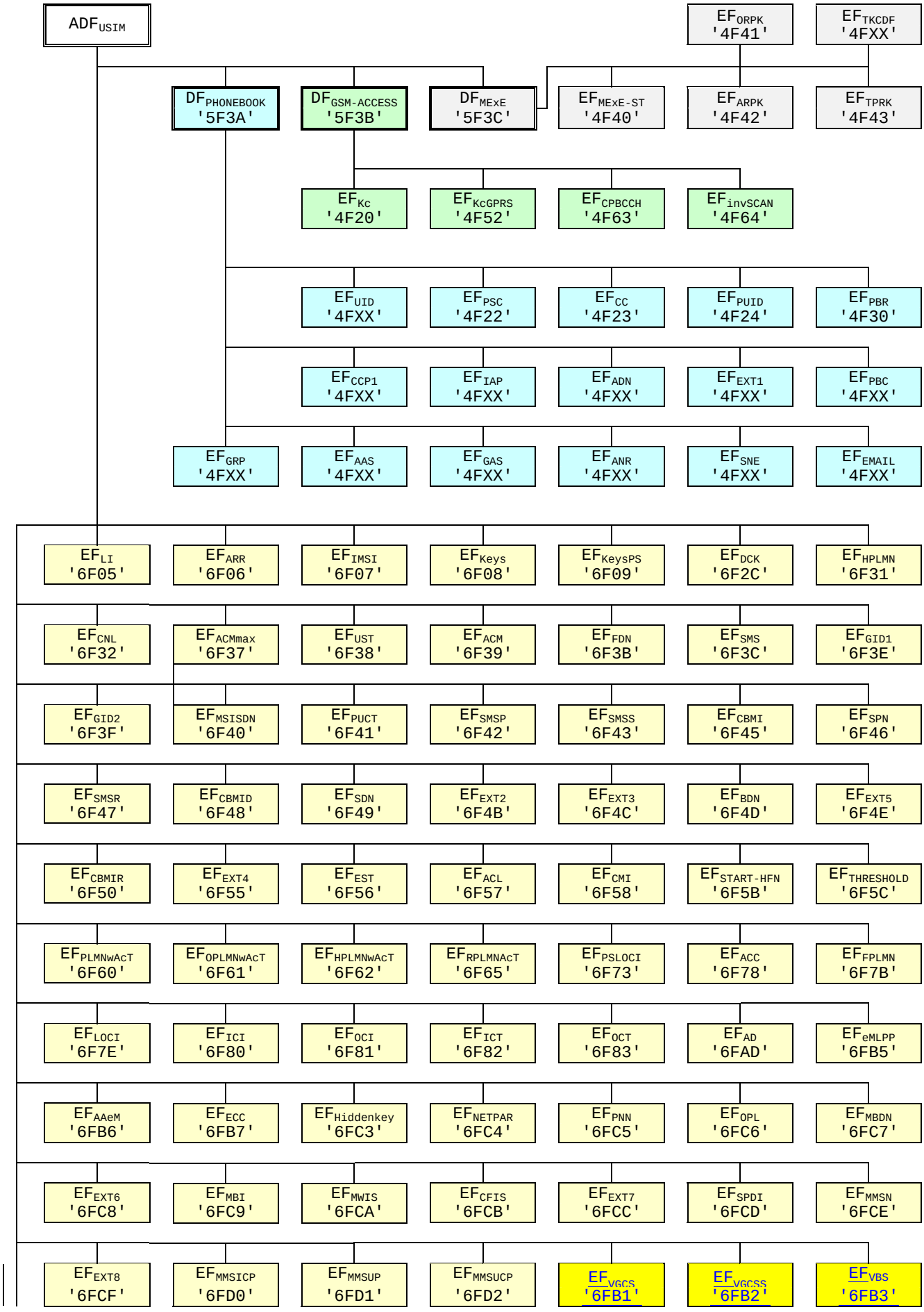
4.7 Files of USIM

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

Figure 4.1: File identifiers and directory structures of UICC


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 '4FXX'
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 '6FD2'
EF VGCS '6FB1'
EF VGCSS '6FB2'
EF VBS '6FB3'

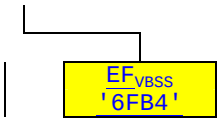


Figure 4.2: File identifiers and directory structures of USIM

5.2.x Voice Group Call Services

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

Voice Group Call Service

Request: The ME performs the reading procedure with EF_{VGCS}.

Voice Group Call Service Status

Request: The ME performs the reading procedure with EF_{VGCSS}.

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

5.2.X Voice Broadcast Services

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

Voice Broadcast Service

Request: The ME performs the reading procedure with EF_{VBS}.

Voice Broadcast Service Status

Request: The ME performs the reading procedure with EF_{VBSS}.

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

[…]

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
'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
'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
'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
'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
'6F65'	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
'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
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'
'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'
'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
'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	'FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

[…]

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031019
(revised from *T3-030931*)

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **182** ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Alignment of EF-HPLMN Search Period with 22.011 and 23.122
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	To align the periodic search procedure with a change made to R99 versions of 22.011 and 23.122
Summary of change:	⌘	The CN and SA specifications were changed so that a periodic search also included any higher priority PLMNs and not just the HPLMN. At present, the T3 specifications still refer to the HPLMN only.
Consequences if not approved:	⌘	Mis-alignment between the T3, CN and SA specifications

Clauses affected:	⌘	4.2.6, 4.7, 5.1.1.2, 5.2.4, Annex A, Annex E, Anex H.1

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

⌘

Other comments:	⌘	

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

4.2.6 EF_{HPPLMN} (Highest Priority PLMN search period)

This EF contains the interval of time between searches for the highest priority ~~H~~PLMN (see TS 22.011 [2]).

Identifier: '6F31'	Structure: transparent	Mandatory
SFI: '12'		
File size: 1 byte	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Time interval	M	1 byte

- Time interval.
  Contents:
  the time interval between two searches.
  Coding:
  the time interval is coded in integer multiples of n minutes. The range is from n minutes to a maximum value. The value '00' indicates that no attempts shall be made to search for any higher priority ~~the H~~PLMN. The encoding is:

  - '00': No higher priority ~~H~~PLMN search attempts;
  - '01': n minutes;
  - '02': 2n minutes;
  - : :
  - 'YZ': (16Y+Z)n minutes (maximum value).

- All other values shall be interpreted by the ME as a default period.

For specification of the integer timer interval n, the maximum value and the default period refer to TS 22.011 [2].

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}.

:

:

:

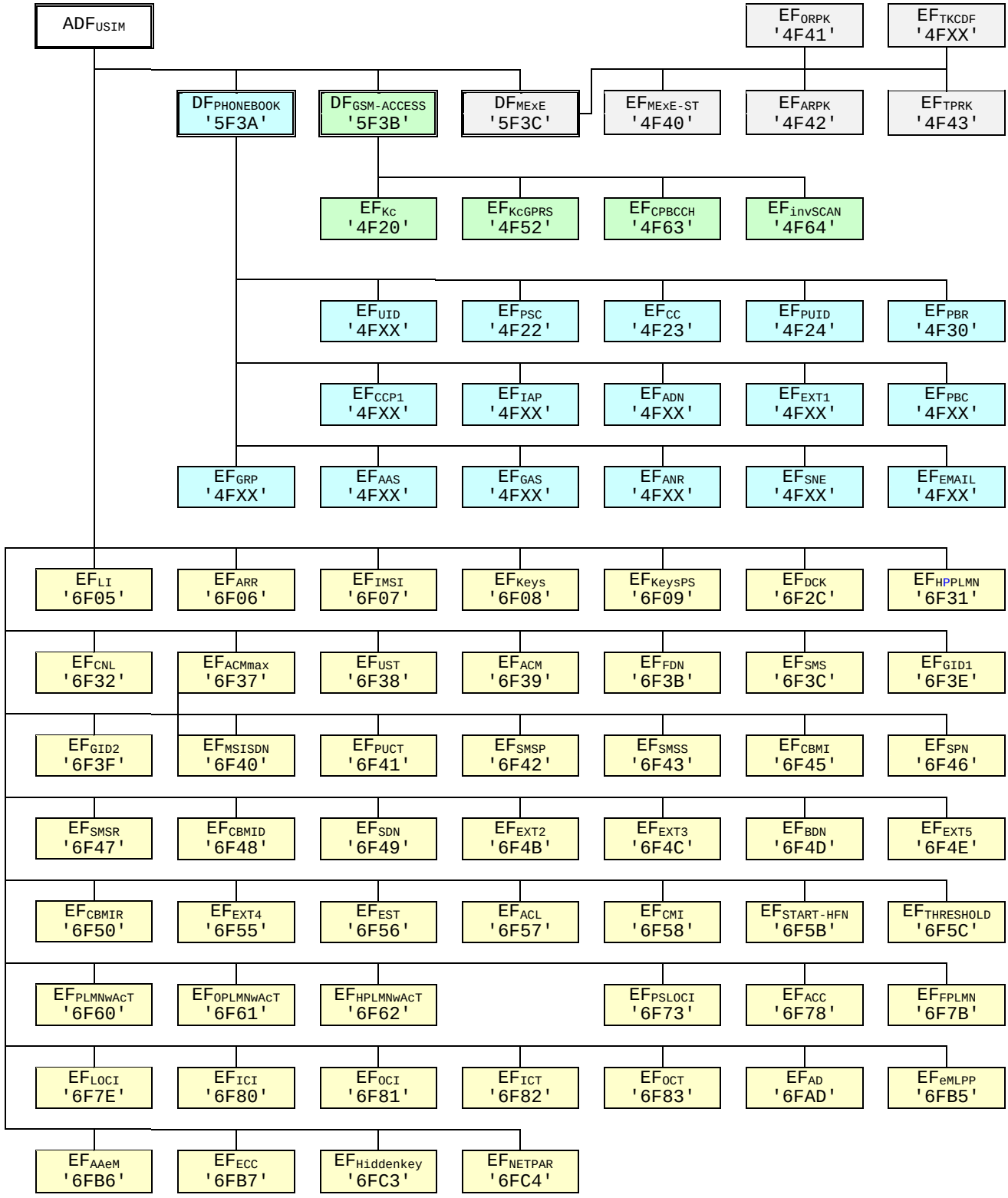


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.1.1.2 USIM initialisation

The ME requests the emergency call codes. For service requirements, see TS 22.101 [24].

The ME requests the Language Indication. The preferred language selection shall always use the EF_{LI} in preference to the EF_{PL} at the MF unless any of the following conditions applies:

- if the EF_{LI} has the value 'FFFF' in its highest priority position, then the preferred language selection shall be the language preference in the EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if the ME does not support any of the language codes indicated in EF_{LI}, or if EF_{LI} is not present, then the language selection shall be as defined in EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if neither the languages of EF_{LI} nor EF_{PL} are supported by the terminal, then the terminal shall use its own internal default selection.

The ME then runs the user verification procedure. If the procedure is not performed successfully, the USIM initialisation stops.

The ME performs the administrative information request.

The ME performs the USIM Service Table request.

The ME performs the Enabled Services Table Request.

In case FDN is enabled, an ME which does not support FDN shall allow emergency calls but shall not allow MO-CS calls and MO-SMS.

If BDN is enabled, an ME which does not support Call Control shall allow emergency calls but shall not allow MO-CS calls.

If ACL is enabled, an ME which does not support ACL shall not send any APN to the network.

If all these procedures have been performed successfully then 3G session shall start. In all other cases 3G session shall not start.

Afterwards, the ME runs the following procedures if the ME and the USIM support the related services:

- IMSI request.
- Access control information request.
- Highest Priority PLMN search period request.
- HPLMN selector with Access Technology request;
- User controlled PLMN selector with Access Technology request;
- Operator controlled PLMN selector with Access Technology request;
- GSM initialisation requests.
- Location Information request for CS-and/or PS-mode.
- Cipher key and integrity key request for CS- and/or PS-mode.
- Forbidden PLMN request.
- Initialisation value for hyperframe number request.
- Maximum value of START request.
- CBMID request.
- Depending on the further services that are supported by both the ME and the USIM the corresponding EFs have to be read.

After the USIM initialisation has been completed successfully, the ME is ready for a 3G session and shall indicate this to the USIM by sending a particular STATUS command.

****

5.2.4 Highest Priority PLMN search period request

The ME performs the reading procedure with EF_{HPPLMN}.

****

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	
'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'	Highest 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
'6F4F'	Extended Capability configuration parameters	Yes
'6F3E'	Group identifier level 1	Yes
'6F3F'	Group identifier level 2	Yes

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'	Highest 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'

Annex H (normative): List of SFI Values

This annex lists SFI values assigned in this specification.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	Highest Priority PLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6F39'	'1C'	Accumulated Call Meter
NOTE: When used the value '1C' shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.		

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031020

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **183** ⌘ **rev** **-** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Alignment of EF-HPLMN Search Period with 22.011 and 23.122
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**A**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	To align the periodic search procedure with a change made to R99 versions of 22.011 and 23.122
Summary of change:	⌘	The CN and SA specifications were changed so that a periodic search also included any higher priority PLMNs and not just the HPLMN. At present, the T3 specifications still refer to the HPLMN only.
Consequences if not approved:	⌘	Mis-alignment between the T3, CN and SA specifications

Clauses affected:	⌘	4.2.6, 4.7, 5.1.1.2, 5.2.4, Annex A, Annex E, Annex H.1

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

Other comments:	⌘	

How to create CRs using this form:
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.

4.2.6 EF_{HPPLMN} (Highest Priority PLMN search period)

This EF contains the interval of time between searches for the highest priority ~~H~~PLMN (see TS 22.011 [2]).

Identifier: '6F31'	Structure: transparent	Mandatory
SFI: '12'		
File size: 1 byte	Update activity: low	
Access Conditions: READ PIN UPDATE ADM DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1	Time interval	M	1 byte

- Time interval.
  Contents:
  the time interval between two searches.
  Coding:
  the time interval is coded in integer multiples of n minutes. The range is from n minutes to a maximum value. The value '00' indicates that no attempts shall be made to search for any higher priority ~~the H~~PLMN. The encoding is:

  - '00': No higher priority ~~H~~PLMN search attempts;
  - '01': n minutes;
  - '02': 2n minutes;
  - : :
  - 'YZ': (16Y+Z)n minutes (maximum value).

  - All other values shall be interpreted by the ME as a default period.

For specification of the integer timer interval n, the maximum value and the default period refer to TS 22.011 [2].

4.7 Files of USIM

:

:

:

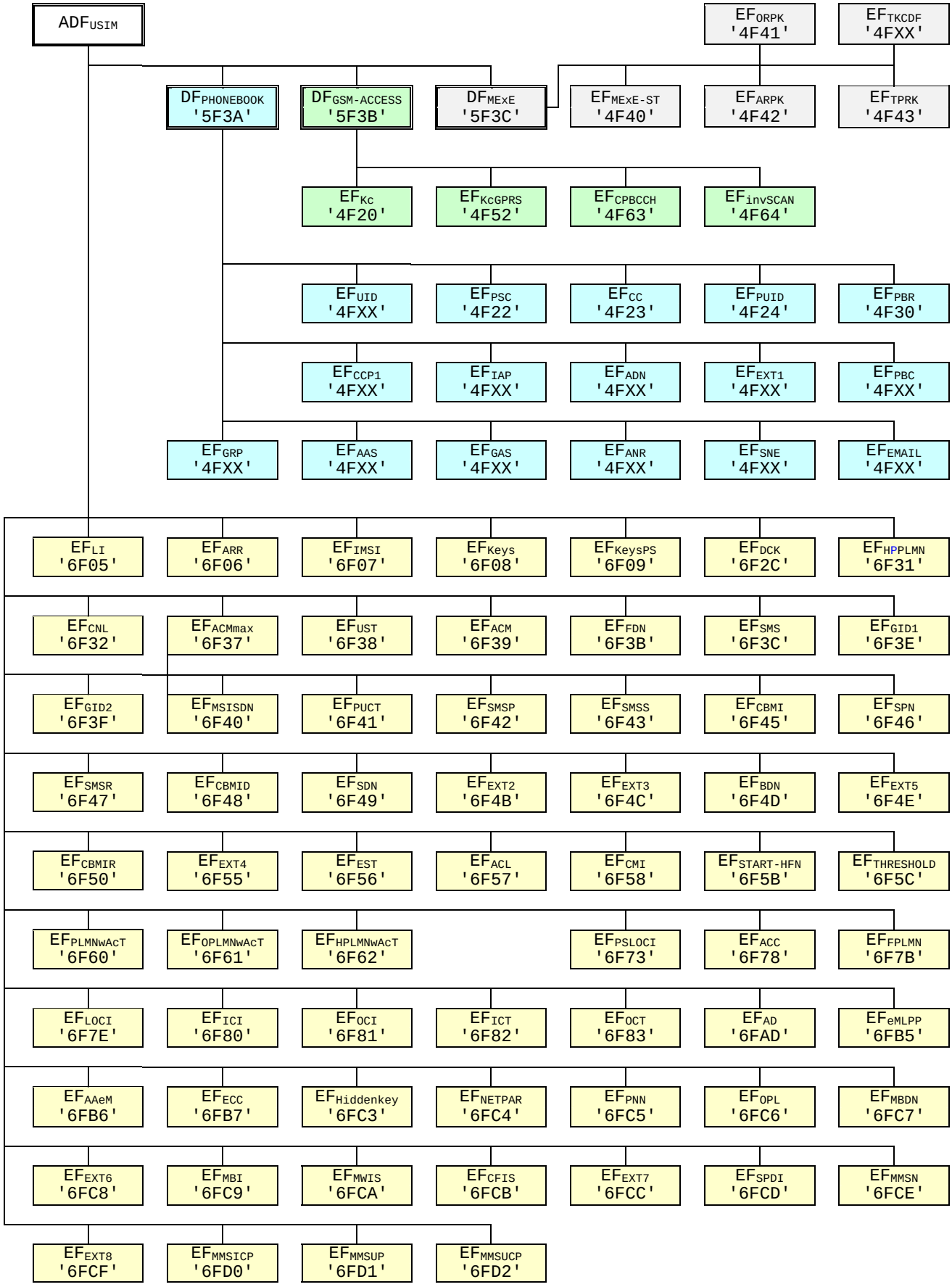


Figure 4.2: File identifiers and directory structures of USIM

5.1.1.2 USIM initialisation

The ME requests the emergency call codes. For service requirements, see TS 22.101 [24].

The ME requests the Language Indication. The preferred language selection shall always use the EF_{LI} in preference to the EF_{PL} at the MF unless any of the following conditions applies:

- if the EF_{LI} has the value 'FFFF' in its highest priority position, then the preferred language selection shall be the language preference in the EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if the ME does not support any of the language codes indicated in EF_{LI}, or if EF_{LI} is not present, then the language selection shall be as defined in EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if neither the languages of EF_{LI} nor EF_{PL} are supported by the terminal, then the terminal shall use its own internal default selection.

The ME then runs the user verification procedure. If the procedure is not performed successfully, the USIM initialisation stops.

The ME performs the administrative information request.

The ME performs the USIM Service Table request.

The ME performs the Enabled Services Table Request.

In case FDN is enabled, an ME which does not support FDN shall allow emergency calls but shall not allow MO-CS calls and MO-SMS.

If BDN is enabled, an ME which does not support Call Control shall allow emergency calls but shall not allow MO-CS calls.

If ACL is enabled, an ME which does not support ACL shall not send any APN to the network.

If all these procedures have been performed successfully then 3G session shall start. In all other cases 3G session shall not start.

Afterwards, the ME runs the following procedures if the ME and the USIM support the related services:

- IMSI request.
- Access control information request.
- Highest Priority PLMN search period request.
- HPLMN selector with Access Technology request;
- User controlled PLMN selector with Access Technology request;
- Operator controlled PLMN selector with Access Technology request;
- GSM initialisation requests.
- Location Information request for CS-and/or PS-mode.
- Cipher key and integrity key request for CS- and/or PS-mode.
- Forbidden PLMN request.
- Initialisation value for hyperframe number request.
- Maximum value of START request.
- CBMID request.

- Depending on the further services that are supported by both the ME and the USIM the corresponding EFs have to be read.

After the USIM initialisation has been completed successfully, the ME is ready for a 3G session and shall indicate this to the USIM by sending a particular STATUS command.

5.2.4 Highest Priority PLMN search period request

The ME performs the reading procedure with EF_{HPPLMN}.

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 Ciphering 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
'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
'6F2C'	De-personalization Control Keys	Caution
'6F31'	Highest 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….

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 Ciphering 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'
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	Highest 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....

Annex H (normative): List of SFI Values

This annex lists SFI values assigned in the present document.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	Highest Priority PLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6FC5'	'19'	PLMN Network Name
'6FC6'	'1A'	Operator Network List
'6FCD'	'1B'	Service Provider Display Information
'6F39'	'1C'	Accumulated Call Meter
NOTE: When used the value '1C' shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.		

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031021

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **184** ⌘**rev** **-** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Alignment of EF-HPLMN Search Period with 22.011 and 23.122
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	To align the periodic search procedure with a change made to R99 versions of 22.011 and 23.122
Summary of change:	⌘	The CN and SA specifications were changed so that a periodic search also included any higher priority PLMNs and not just the HPLMN. At present, the T3 specifications still refer to the HPLMN only.
Consequences if not approved:	⌘	Mis-alignment between the T3, CN and SA specifications

Clauses affected:	⌘	4.2.6, 4.7, 5.1.1.2, 5.2.4, Annex A, Annex E, Annex H.1

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

Other comments: ⌘

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

4.2.6 EF_{HPPLMN} (Highest Priority PLMN search period)

This EF contains the interval of time between searches for the highest priority ~~H~~PLMN (see TS 22.011 [2]).

Identifier: '6F31'	Structure: transparent	Mandatory
SFI: '12'		
File size: 1 byte	Update activity: low	
Access Conditions: READ PIN UPDATE ADM DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1	Time interval	M	1 byte

- Time interval.
  Contents:
  the time interval between two searches.
  Coding:
  the time interval is coded in integer multiples of n minutes. The range is from n minutes to a maximum value. The value '00' indicates that no attempts shall be made to search for any higher priority ~~the H~~PLMN. The encoding is:

  - '00': No higher priority ~~H~~PLMN search attempts;
  - '01': n minutes;
  - '02': 2n minutes;
  - : :
  - 'YZ': (16Y+Z)n minutes (maximum value).

  - All other values shall be interpreted by the ME as a default period.

For specification of the integer timer interval n, the maximum value and the default period refer to TS 22.011 [2].

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}.

:

:

:

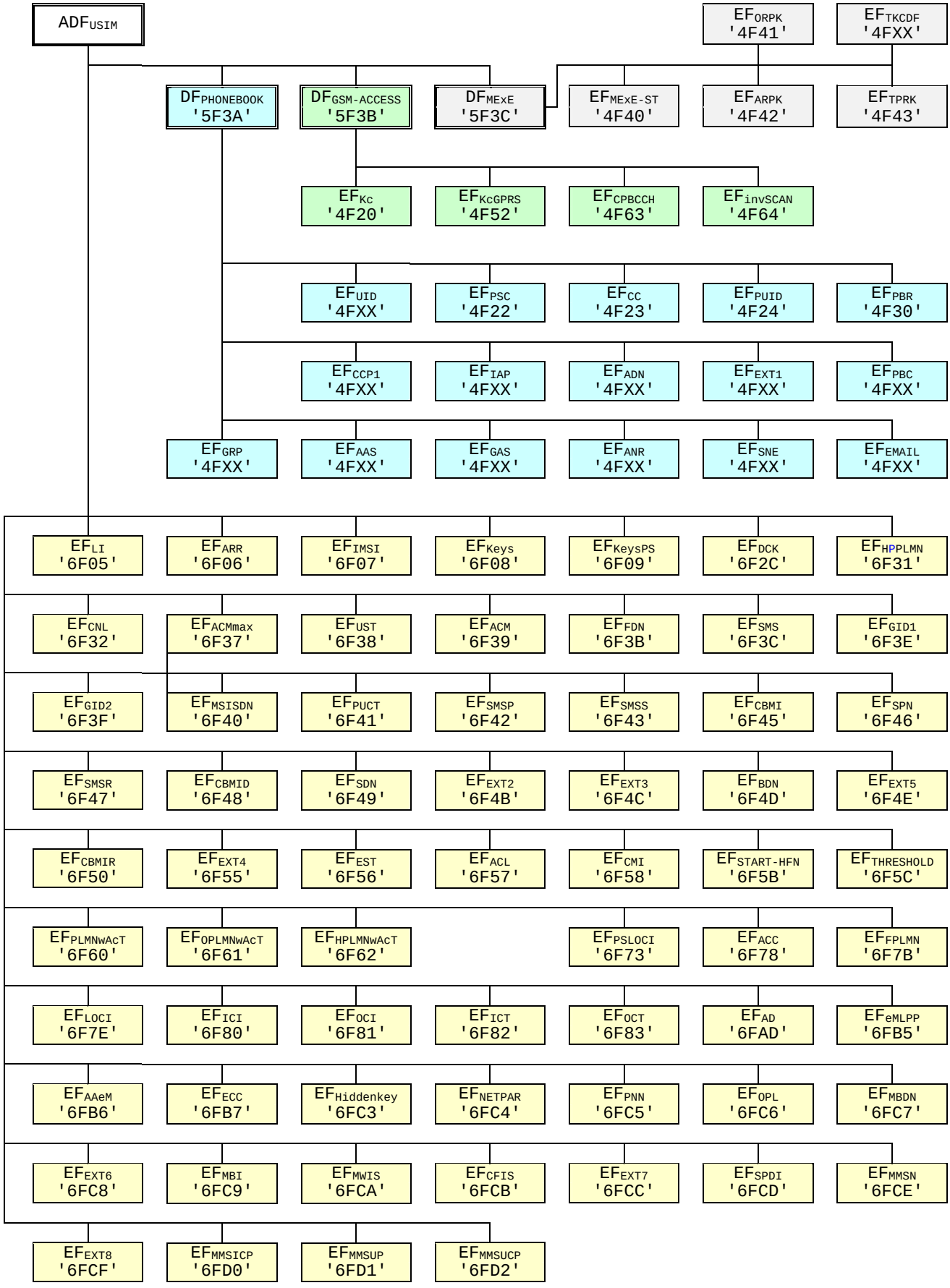


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.1.1.2 USIM initialisation

The ME requests the emergency call codes. For service requirements, see TS 22.101 [24].

The ME requests the Language Indication. The preferred language selection shall always use the EF_{LI} in preference to the EF_{PL} at the MF unless any of the following conditions applies:

- if the EF_{LI} has the value 'FFFF' in its highest priority position, then the preferred language selection shall be the language preference in the EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if the ME does not support any of the language codes indicated in EF_{LI}, or if EF_{LI} is not present, then the language selection shall be as defined in EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if neither the languages of EF_{LI} nor EF_{PL} are supported by the terminal, then the terminal shall use its own internal default selection.

The ME then runs the user verification procedure. If the procedure is not performed successfully, the USIM initialisation stops.

The ME performs the administrative information request.

The ME performs the USIM Service Table request.

The ME performs the Enabled Services Table Request.

In case FDN is enabled, an ME which does not support FDN shall allow emergency calls but shall not allow MO-CS calls and MO-SMS.

If BDN is enabled, an ME which does not support Call Control shall allow emergency calls but shall not allow MO-CS calls.

If ACL is enabled, an ME which does not support ACL shall not send any APN to the network.

If all these procedures have been performed successfully then 3G session shall start. In all other cases 3G session shall not start.

Afterwards, the ME runs the following procedures if the ME and the USIM support the related services:

- IMSI request.
- Access control information request.
- Highest Priority PLMN search period request.
- HPLMN selector with Access Technology request;
- User controlled PLMN selector with Access Technology request;
- Operator controlled PLMN selector with Access Technology request;
- GSM initialisation requests.
- Location Information request for CS-and/or PS-mode.
- Cipher key and integrity key request for CS- and/or PS-mode.
- Forbidden PLMN request.
- Initialisation value for hyperframe number request.
- Maximum value of START request.
- CBMID request.

- Depending on the further services that are supported by both the ME and the USIM the corresponding EFs have to be read.

After the USIM initialisation has been completed successfully, the ME is ready for a 3G session and shall indicate this to the USIM by sending a particular STATUS command.

5.2.4 Highest Priority PLMN search period request

The ME performs the reading procedure with EF_{HPPLMN}.

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
'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
'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
'6F2C'	De-personalization Control Keys	Caution
'6F31'	Highest 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….

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'
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	Highest 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....

Annex H (normative): List of SFI Values

This annex lists SFI values assigned in the present document.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	Highest Priority PLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6FC5'	'19'	PLMN Network Name
'6FC6'	'1A'	Operator Network List
'6FCD'	'1B'	Service Provider Display Information

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031022

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **185** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Alignment of EF-HPLMN Search Period with 22.011 and 23.122
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	To align the periodic search procedure with a change made to R99 versions of 22.011 and 23.122
Summary of change:	⌘	The CN and SA specifications were changed so that a periodic search also included any higher priority PLMNs and not just the HPLMN. At present, the T3 specifications still refer to the HPLMN only.
Consequences if not approved:	⌘	Mis-alignment between the T3, CN and SA specifications

Clauses affected:	⌘	4.2.6, 4.7, 5.1.1.2, 5.2.4, Annex A, Annex E, Annex H.1

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

Other comments:	⌘	

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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.

4.2.6 EF_{HPPLMN} (Highest Priority PLMN search period)

This EF contains the interval of time between searches for the highest priority ~~H~~PLMN (see TS 22.011 [2]).

Identifier: '6F31'	Structure: transparent	Mandatory
SFI: '12'		
File size: 1 byte	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	ADM
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Time interval	M	1 byte

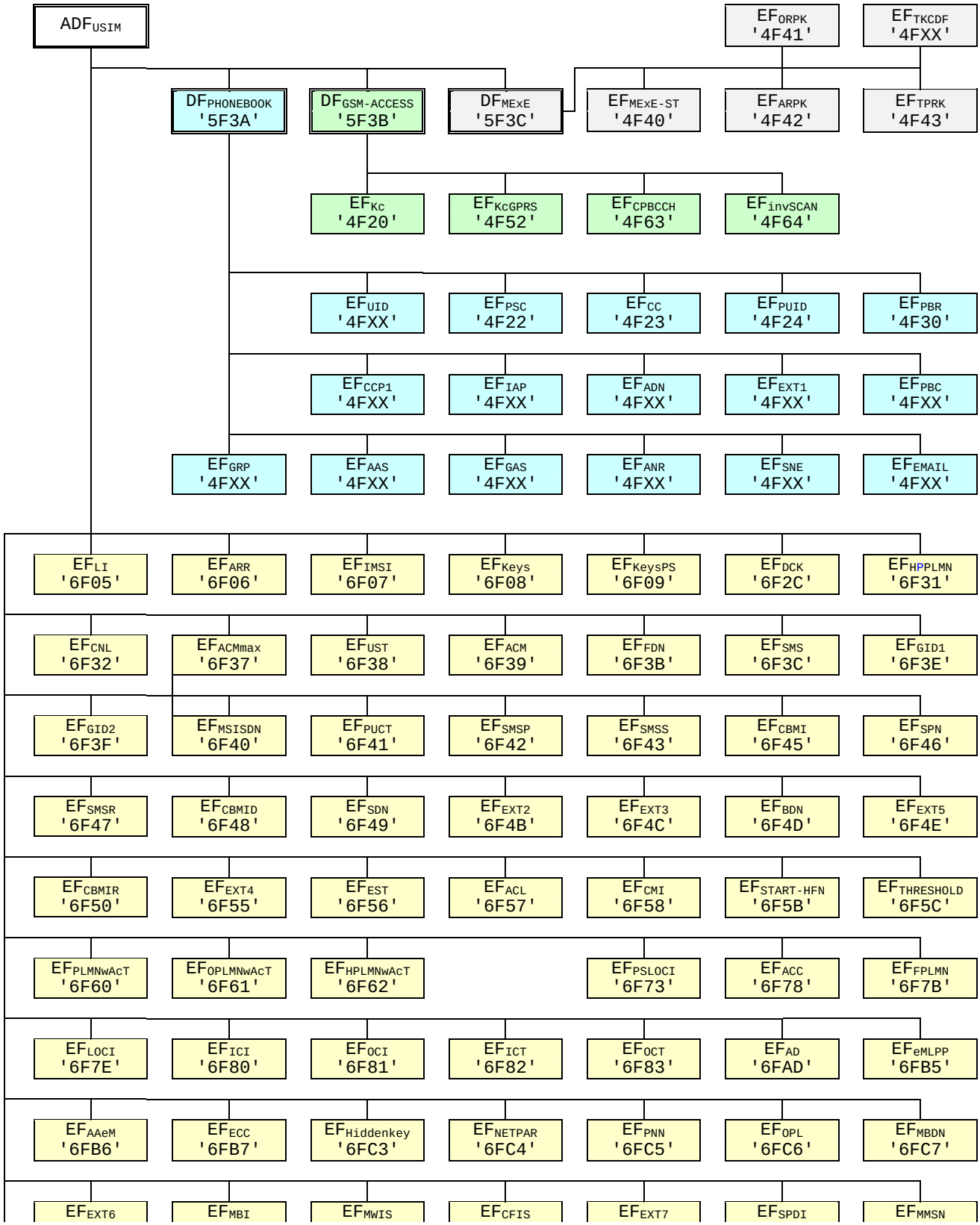
- Time interval.
  Contents:
  the time interval between two searches.
  Coding:
  the time interval is coded in integer multiples of n minutes. The range is from n minutes to a maximum value. The value '00' indicates that no attempts shall be made to search for any higher priority ~~the H~~PLMN. The encoding is:

  - '00': No higher priority ~~H~~PLMN search attempts;
  - '01': n minutes;
  - '02': 2n minutes;
  - : :
  - 'YZ': (16Y+Z)n minutes (maximum value).

  - All other values shall be interpreted by the ME as a default period.

For specification of the integer timer interval n, the maximum value and the default period refer to TS 22.011 [2].

4.7 Files of USIM



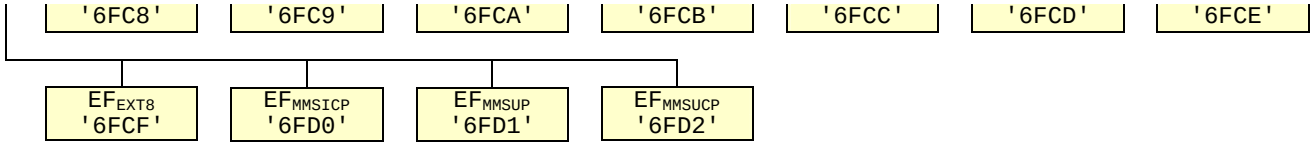


Figure 4.2: File identifiers and directory structures of USIM

DF '5F70' is reserved for SoLSA. EF '4F30' (EF_{SAL}) and EF '4F31' (EF_{SLL}) are reserved under DF '5F70' (SoLSA).

5.1.1.2 USIM initialisation

The ME requests the emergency call codes. For service requirements, see TS 22.101 [24].

The ME requests the Language Indication. The preferred language selection shall always use the EF_{LI} in preference to the EF_{PL} at the MF unless any of the following conditions applies:

- if the EF_{LI} has the value 'FFFF' in its highest priority position, then the preferred language selection shall be the language preference in the EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if the ME does not support any of the language codes indicated in EF_{LI}, or if EF_{LI} is not present, then the language selection shall be as defined in EF_{PL} at the MF level according the procedure defined in TS 31.101[11];
- if neither the languages of EF_{LI} nor EF_{PL} are supported by the terminal, then the terminal shall use its own internal default selection.

The ME then runs the user verification procedure. If the procedure is not performed successfully, the USIM initialisation stops.

The ME performs the administrative information request.

The ME performs the USIM Service Table request.

The ME performs the Enabled Services Table Request.

In case FDN is enabled, an ME which does not support FDN shall allow emergency calls but shall not allow MO-CS calls and MO-SMS.

If BDN is enabled, an ME which does not support Call Control shall allow emergency calls but shall not allow MO-CS calls.

If ACL is enabled, an ME which does not support ACL shall not send any APN to the network.

If all these procedures have been performed successfully then 3G session shall start. In all other cases 3G session shall not start.

Afterwards, the ME runs the following procedures if the ME and the USIM support the related services:

- IMSI request.
- Access control information request.
- Highest Priority PLMN search period request.
- HPLMN selector with Access Technology request;
- User controlled PLMN selector with Access Technology request;
- Operator controlled PLMN selector with Access Technology request;
- GSM initialisation requests.
- Location Information request for CS-and/or PS-mode.
- Cipher key and integrity key request for CS- and/or PS-mode.
- Forbidden PLMN request.
- Initialisation value for hyperframe number request.
- Maximum value of START request.
- CBMID request.

- Depending on the further services that are supported by both the ME and the USIM the corresponding EFs have to be read.

After the USIM initialisation has been completed successfully, the ME is ready for a 3G session and shall indicate this to the USIM by sending a particular STATUS command.

5.2.4 Highest Priority PLMN search period request

The ME performs the reading procedure with EF_{HPPLMN}.

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
'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
'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
'6F2C'	De-personalization Control Keys	Caution
'6F31'	Highest 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….

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'
'6F2C'	De-personalization control keys	'FF…FF'
'6F31'	Highest 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....

Annex H (normative): List of SFI Values

This annex lists SFI values assigned in the present document.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	Highest Priority PLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6FC5'	'19'	PLMN Network Name
'6FC6'	'1A'	Operator Network List
'6FCD'	'1B'	Service Provider Display Information

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030955⌘
(revised from T3-030573)

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **186** ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Correction of SFI support
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

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

Reason for change:	⌘	- Annex G contains several mistakes: • SFI are missing, despite the fact that they are mandatory. • The phonebook only contains EF_{UID} whereas in section 4.4.2.12, it is specified that "If synchronisation is supported in the phonebook, then EF_{PSC}, EF_{UID}, EF_{PUID} and EF_{CC} are all mandatory".
Summary of change:	⌘	Annex G correction: - addition of SFI for all files for which SFI is mandatory - removal of EF_{UID}
Consequences if not approved:	⌘	Risk of misinterpretation of the specification leading to wrong implementations.

Clauses affected:	⌘	Annex G			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Equivalent CRs needed for further releases			

How to create CRs using this form:
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Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. ~~In addition each entry has a 2 byte Unique ID (UID) attached to it.~~ The phonebook also contains three files that are shared EF_{EXT1}, EF_{AAS} and EF_{GAS}. These files are addressed from inside a file. EF_{EXT1} is addressed via $EF_{ADN,}$ EF_{ADN1}, EF_{AAS} is addressed via EF_{ANRA}~~1~~, EF_{ANRA1} and EF_{GAS} is addressed via $EF_{GRP,}$ EF_{GRP1}. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$

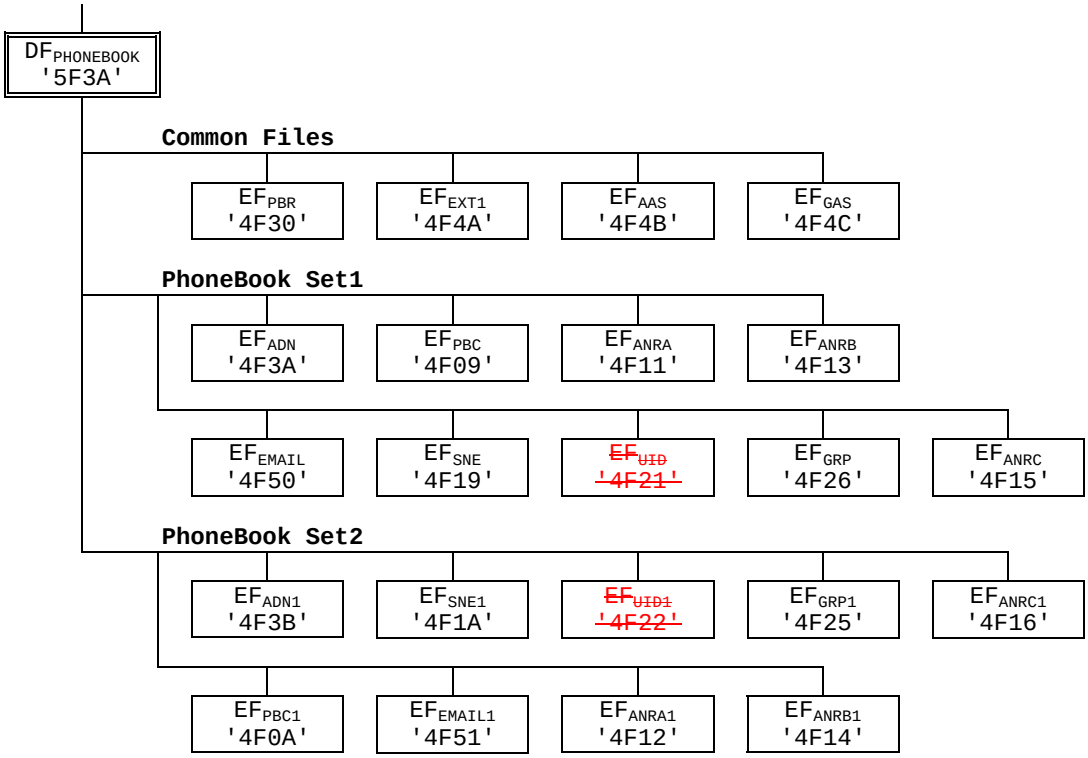

Table G.2: Contents of EF_{PBR}

Rec 1 Tag'A8' | L='28~~6~~' (for Phonebook Set1)

Tag'C0'	L='03'	'4F3A'	'01'	Tag'C5'	L='03'	'4F09'	'02'	Tag'C6'	L='03~~2~~'	'4F26'	'03'	Tag'C4'	L='03~~2~~'
'4F11'	'04'	Tag'C4'	L='03~~2~~'	'4F13'	'05'	Tag'C4'	L='03~~2~~'	'4F15'	'06'	Tag'C3'	L='03~~2~~'	'4F19'	'07'
~~Tag'C9'~~	~~L='02'~~	~~'4F21'~~	Tag'CA'	L='03~~2~~'	'4F50'	'09'							
Tag'AA'	L='0D~~C~~'												
Tag'C2'	L='03~~2~~'	'4F4A'	'08'	Tag'C7'	L='02'	'4F4B'	Tag'C8'	L='02'	'4F4C'				

| | | |

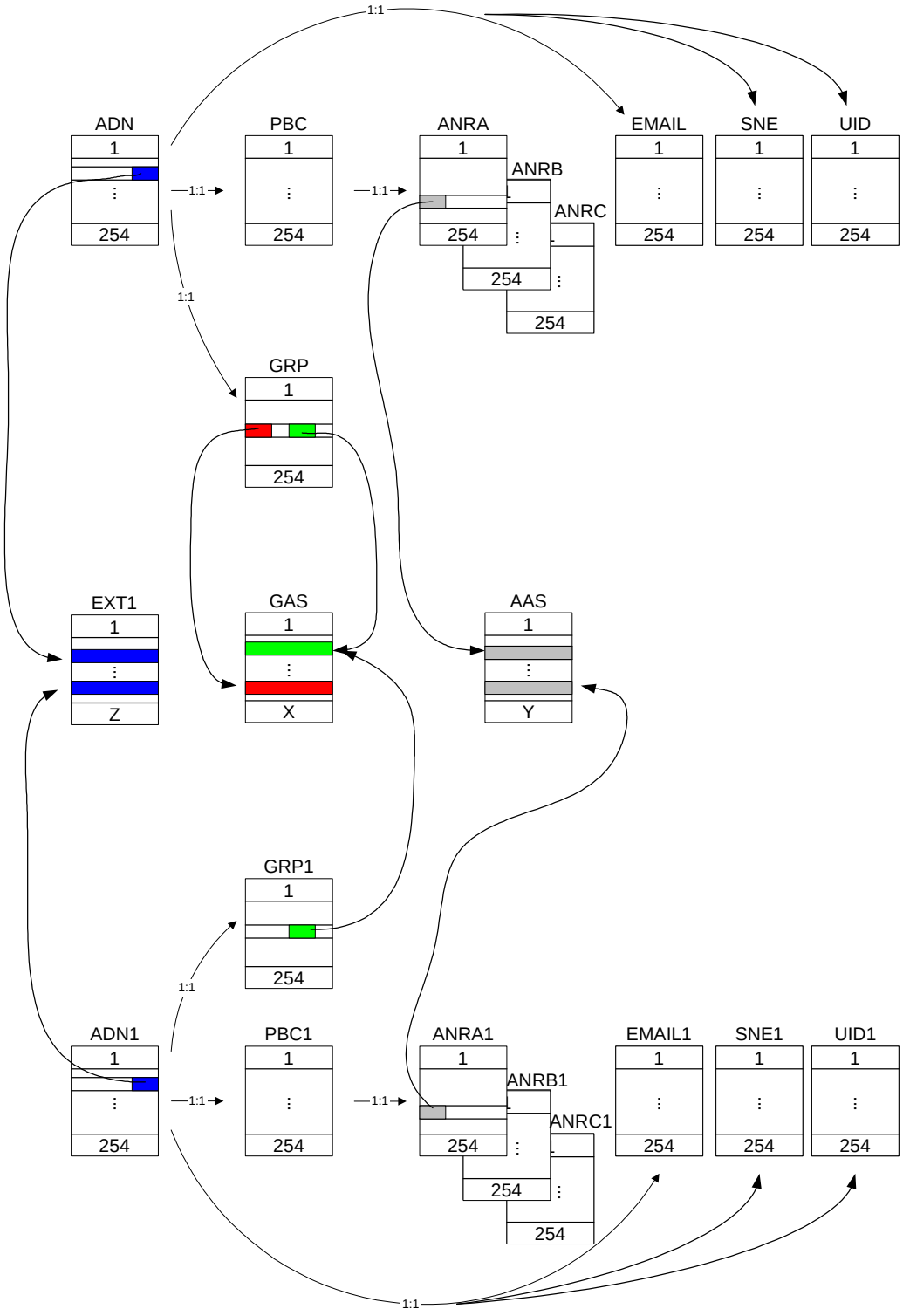

Figure G.1: Structure and Relations of the Example Phone Book

Rapporteur's note: UID and UID1 to be removed from figure G.1

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030956⌘

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CHANGE REQUEST

⌘ **31.102** **CR** **187** ⌘ **rev** **-** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘	Correction of SFI support
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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Clauses affected:	⌘	Annex G

		Y	N		
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			X	Test specifications	
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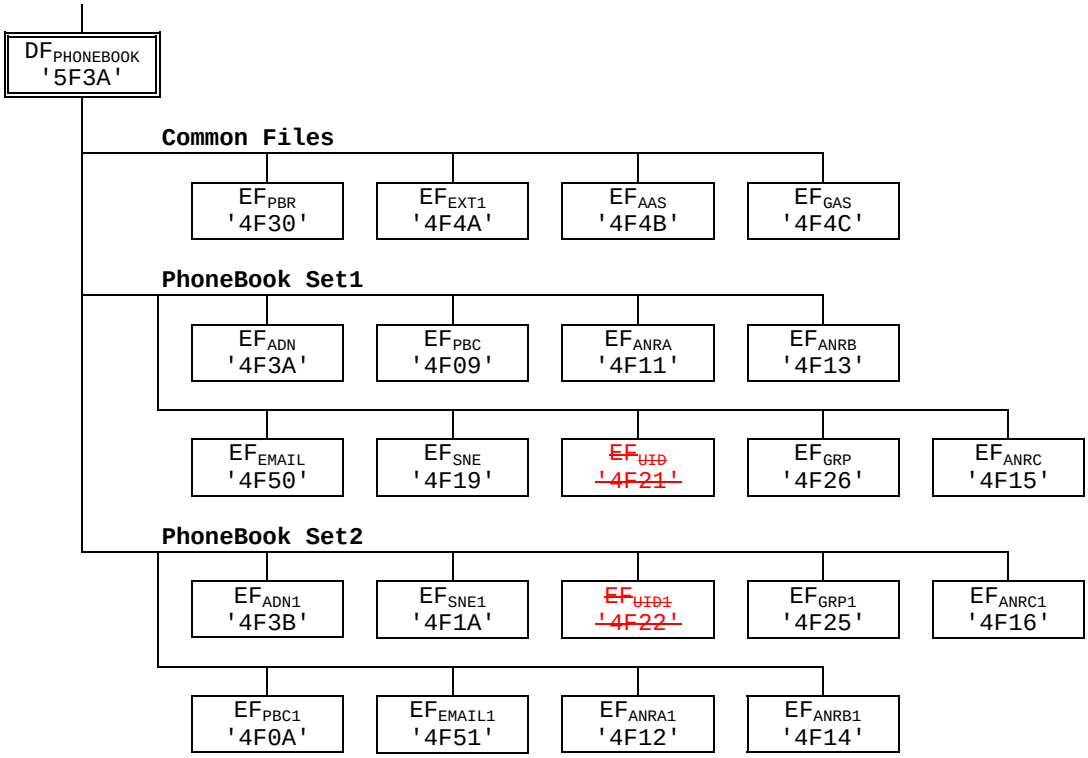

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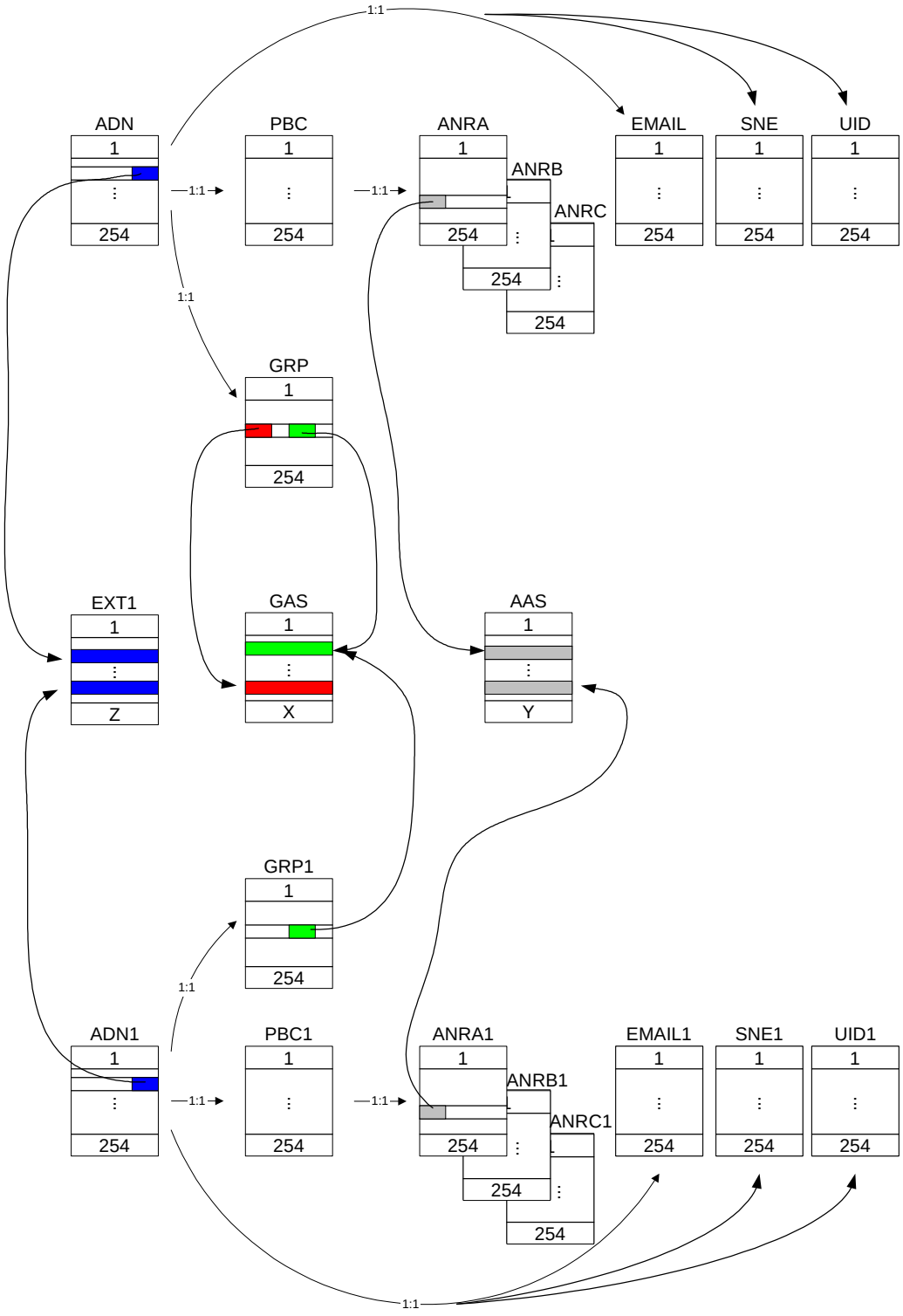
'4F11'	'04'	Tag'C4'	L='03~~2~~'	'4F13'	'05'	Tag'C4'	L='03~~2~~'	'4F15'	'06'	Tag'C3'	L='03~~2~~'	'4F19'	'07'
~~Tag'C9'~~	~~L='02'~~	~~'4F21'~~	Tag'CA'	L='03~~2~~'	'4F50'	'09'							
Tag'AA'	L='0D~~C~~'												
Tag'C2'	L='03~~2~~'	'4F4A'	'08'	Tag'C7'	L='02'	'4F4B'	Tag'C8'	L='02'	'4F4C'				

| | | |



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3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-030957⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **188** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Correction of SFI support
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	- Annex G contains several mistakes: • SFI are missing, despite the fact that they are mandatory. • The phonebook only contains EF_{UID} whereas in section 4.4.2.12, it is specified that "If synchronisation is supported in the phonebook, then EF_{PSC}, EF_{UID}, EF_{PUID} and EF_{CC} are all mandatory".
Summary of change:	⌘	Annex G correction: - addition of SFI for all files for which SFI is mandatory - removal of EF_{UID}
Consequences if not approved:	⌘	Risk of misinterpretation of the specification leading to wrong implementations.

Clauses affected:	⌘	Annex G

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

Other comments:	⌘	Equivalent CRs needed for further releases

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.

Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. ~~In addition each entry has a 2 byte Unique ID (UID) attached to it.~~ The phonebook also contains three files that are shared EF_{EXT1}, EF_{AAS} and EF_{GAS}. These files are addressed from inside a file. EF_{EXT1} is addressed via $EF_{ADN,}$ EF_{ADN1}, EF_{AAS} is addressed via EF_{ANRA}~~1~~, EF_{ANRA1} and EF_{GAS} is addressed via $EF_{GRP,}$ EF_{GRP1}. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$

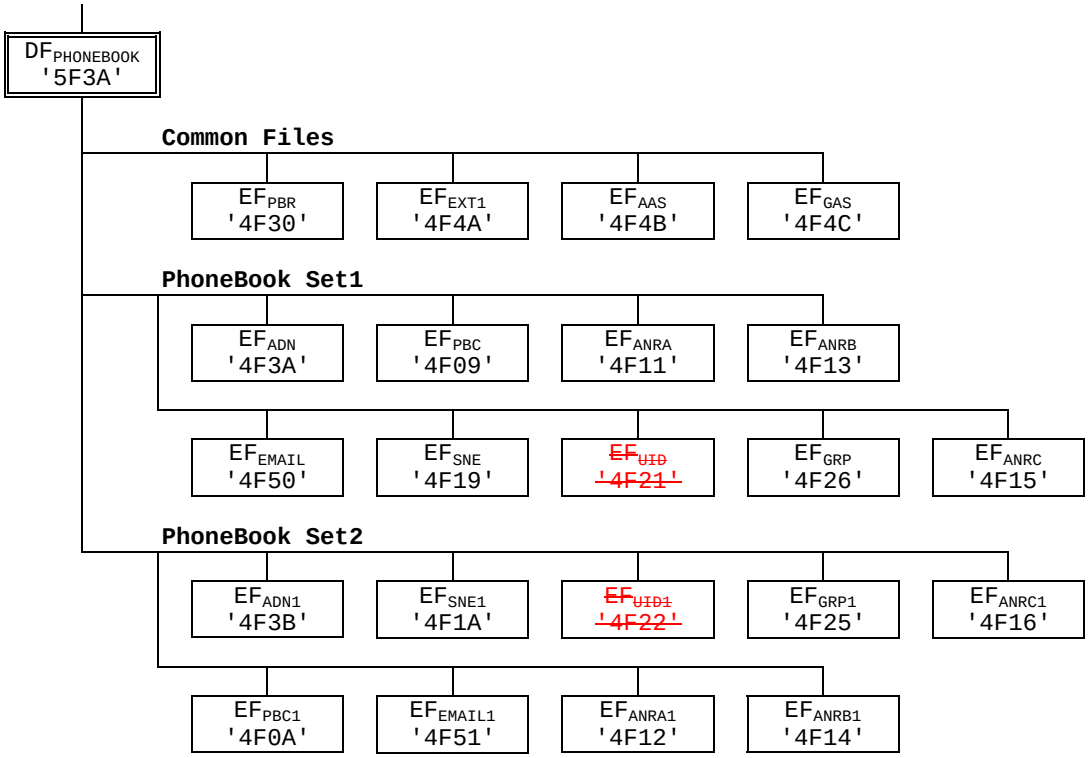

Table G.2: Contents of EF_{PBR}

Rec 1 Tag'A8' | L='28~~6~~' (for Phonebook Set1)

Tag'C0'	L='03'	'4F3A'	'01'	Tag'C5'	L='03'	'4F09'	'02'	Tag'C6'	L='03~~2~~'	'4F26'	'03'	Tag'C4'	L='03~~2~~'
'4F11'	'04'	Tag'C4'	L='03~~2~~'	'4F13'	'05'	Tag'C4'	L='03~~2~~'	'4F15'	'06'	Tag'C3'	L='03~~2~~'	'4F19'	'07'
~~Tag'C9'~~	~~L='02'~~	~~'4F21'~~	Tag'CA'	L='03~~2~~'	'4F50'	'09'							
Tag'AA'	L='0D~~C~~'												
Tag'C2'	L='03~~2~~'	'4F4A'	'08'	Tag'C7'	L='02'	'4F4B'	Tag'C8'	L='02'	'4F4C'				

| | | |

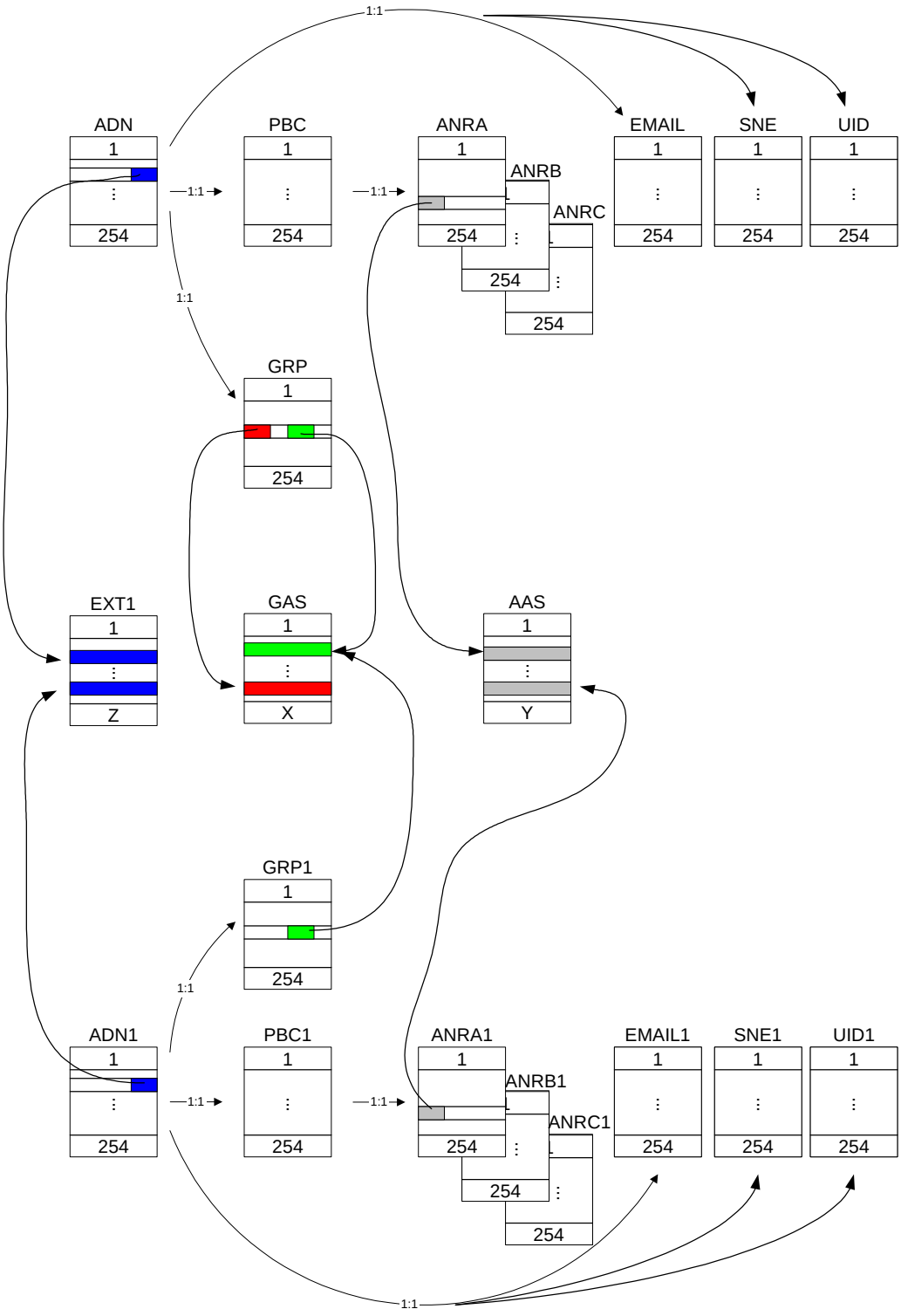

Figure G.1: Structure and Relations of the Example Phone Book

Rapporteur's note: UID and UID1 to be removed from figure G.1

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Dallas, TEXAS (USA), 18.- 21. November 2003

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(revised from T3-030906)

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⌘ **31.102** **CR** **189** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Editorial corrections for Image files
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/03
Category:	⌘	**D**
Release:	⌘	Rel-6

Use one of the following categories:
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Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	There are editorial errors in the specification: • The abbreviation for “Image Instance Data Files” is missing • The “Image Instance Data Files” under DF_GRAPHICS are not mentioned in the section “Files of USIM”
Summary of change:	⌘	Adjust editorial errors within the specification: • Added abbreviation EF_IIDF for “Image Instance Data Files” • Added EF_IIDFn for “Image Instance Data Files” under DF_GRAPHICS in the section “Files of USIM”
Consequences if not approved:	⌘	Editorial errors in the specification.

Clauses affected:	⌘	4.6.1.2; 4.7;

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

Other comments:	⌘	

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4.6.1.2 EF_{IIDF} (Image Instance Data Files)

Residing under $DF_{GRAPHICS}$, there may be several image instance data files. These EFs containing image instance data shall have the following attributes:

Identifier: '4FXX'	Structure: transparent	Optional
Record length: Y bytes	Update activity: low	
Access Conditions: READ PIN UPDATE ADM DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to Y	Image Instance Data	M	Y bytes

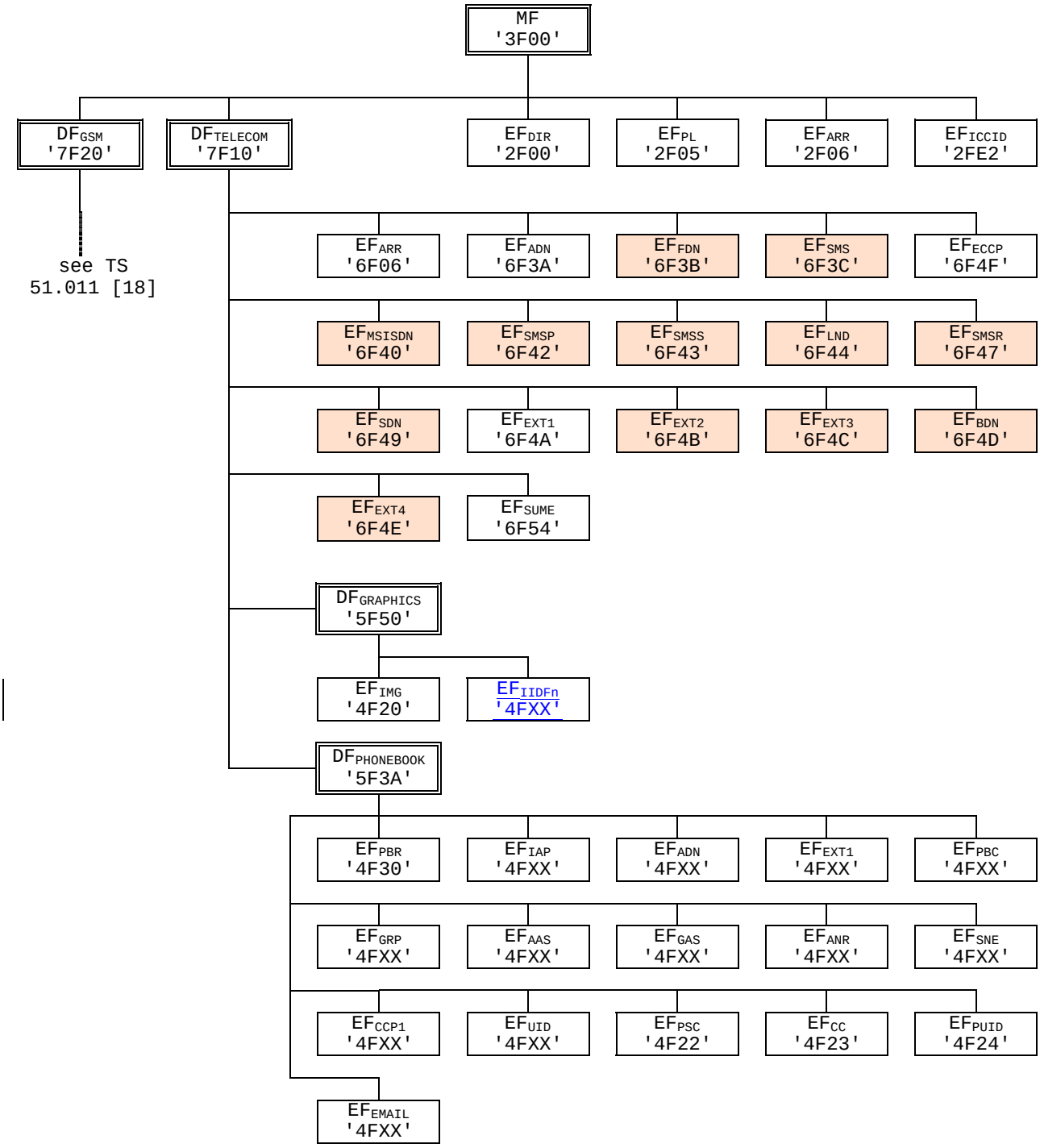
Contents and coding:

- Image instance data are accessed using the image instance descriptors provided by EF_{IMG} (see clause 4.6.1.1).

The identifier '4FXX' shall be different from one image instance data file to the other. For the range of 'XX', TS 31.101 [11]. The length Y may be different from one image instance data file to the other.

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 ADFUSIM 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

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T3-030977

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

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

Title:	⌘	Expansion of Message Waiting Indication Status EFs
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**C**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
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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)*
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R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	To accomodate changes to 23.040 which adds a video mail message waiting indication. This CR details the specifics of storing this new message waiting indication for the USIM
Summary of change:	⌘	Adding a further Message Dialling Number Identfier to EF_{MBI}: changing the EF_{MWIS} by adding a 'videomail' field after the 'other'.
Consequences if not approved:	⌘	Proprietary solutions will emerge.

Clauses affected:	⌘	4.2.62, 4.2.63

Other specs affected:	Y	N			
⌘	X		Other core specifications	⌘	23.040
		X	Test specifications		
		X	O&M Specifications		

Other comments:	⌘	This CR mirrors a CR made to TS 23.040, where the Videomail Message Indication feature is added in Rel-6.

4.2.62 EF_{MBI} (Mailbox Identifier)

This EF contains information to associate mailbox dialling numbers in EF_{MBDN} with a message waiting indication group type and subscriber profile (as defined in TS 23.097 [36]). A message waiting indication group type may either be Voicemail, Fax, Electronic Mail, ~~or~~ Other or Videomail (as defined in TS 23.040~~38~~ [6~~5~~] ~~for Data Coding Scheme~~).

This EF contains as many records as there are subscriber profiles (shall be record to subscriber profile). Each record contains references to mailbox dialling numbers in EF_{MBDN} (one reference for each message waiting indication group type).

This EF is mandatory if EF_{UST} indicates that the Mailbox Dialling Numbers service is available.

Identifier: '6FC9'	Structure: linear fixed	Optional
Record length: X bytes, X>=4	Update activity: low	

Access Conditions:

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

Bytes	Description	M/O	Length
1	Mailbox Dialling Number Identifier – Voicemail	M	1 byte
2	Mailbox Dialling Number Identifier – Fax	M	1 byte
3	Mailbox Dialling Number Identifier – Electronic Mail	M	1 byte
4	Mailbox Dialling Number Identifier – Other	M	1byte
5	Mailbox Dialling Number Identifier – Videomail	O	1 byte

- Mailbox Dialling Number Identifier (message waiting group type = Voicemail, Fax, Electronic Mail, ~~or~~ Other or Videomail).
  Contents:
  Identifies the mailbox dialling number to be associated with message waiting type.

  Coding:
  '00' – no mailbox dialling number associated with message waiting indication group type.
  'xx' – record number in EF_{MBDN} associated with message waiting indication group type.

4.2.63 EF_{MWIS} (Message Waiting Indication Status)

This EF contains the status of indicators that define whether or not a Voicemail, Fax, Electronic Mail, ~~or~~ Other or Videomail message is waiting (as defined in TS 23.~~038~~040 [6~~5~~] ~~for message waiting indication group types~~. The ME uses the status after re-activation to determine whether or not to display the respective message-waiting indication on its display.

This EF contains as many records as there are subscriber profiles (shall be record to subscriber profile) as defined in TS 23.097 [36] for MSP.

Identifier: '6FCA'	Structure: Linear fixed	Optional
Record length: X bytes, X >= 5	Update activity: high	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Message Waiting Indicator Status	M	1 byte
2	Number of Voicemail Messages Waiting	M	1 byte
3	Number of Fax Messages Waiting	M	1 byte
4	Number of Electronic Mail Messages Waiting	M	1 byte
5	Number of Other Messages Waiting	M	1 byte
6	Number of Videomail Messages waiting	O	1 byte

Message Waiting Indication Status

Contents:

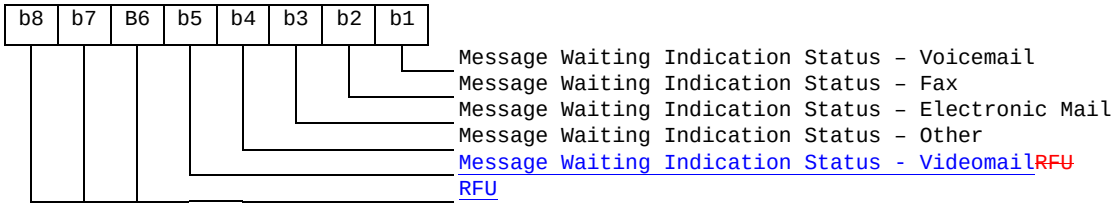
Indicates the status of the message-waiting indication.

Coding:

The indicator status for each indicator type is 1 bit long and set as follows:

bit = 1: Set Indication Active

bit = 0: Set Indication Inactive



Number of Voicemail Messages Waiting

Contents:

Contains the number of voicemail messages waiting (see TS 23.040 [6]).

Coding:

Binary.

Number of Fax Messages Waiting

Contents:

Contains the number of fax messages waiting (see TS 23.040 [6]).

Coding:

Binary.

Number of Electronic Mail Messages Waiting

Contents:

Contains the number of electronic mail messages waiting (see TS 23.040 [6])

Coding:

Binary.

Number of Other Messages Waiting

Contents:

Contains the number of other messages waiting (see TS 23.040 [6]).

Coding:

Binary.

Number of Videomail Messages Waiting

Contents:

Contains the number of Videomail messages waiting (see TS 23.040 [6]).

Coding:
Binary.

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Tdoc T3-030980⌘

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⌘ **31.102** **CR** 191 ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Correction to the description of mandatory SFIs
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	21/11/2003
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	Mandatory SFI can also apply for files which are not referenced by EF_{PBR}
Summary of change:	⌘	Moved the description of mandatory SFIs from section 4.4.2.1 ("EF_{PBR}") to section 4 ("Contents of the files"). Added the clarification that EF_{PSC}, EF_{PUID} and EF_{CC}, although they're part of the phonebook, are not referenced in EF_{PBR}
Consequences if not approved:	⌘	Risk of wrong implementations, due to the fact that it is not clear if SFIs are mandatory or not for some files.

Clauses affected:	⌘	4, 4.4.2.1

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

Other comments:	⌘	CR needs to be applied to all existing releases (R99 to Rel-6).

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).

A file is associated with attributes that depending of the file type indicates how data is to be accessed e.g. file size, record length etc. Although in the present document some files and data items stored in a file are indicated as having a fixed length; when reading such structures the terminal shall derive the length of the data item from the attributes provided in the file information i.e. not use the fixed value specified for the file in the present document. Although the terminal is able to read the entire structure it should only use those elements in the data item which is recognised by the terminal.

EFs are mandatory (M) or optional (O). 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.

For any EFs, when the SFI is not indicated in the description of the file it is not allowed to assign an SFI. If in the description of the file an SFI value is indicated the file shall support SFI. The SFI value shall be assigned by the card issuer. It is mandatory for EFs stating an SFI value ('YY') in the description of their structure to provide an SFI. For files where in the file description the SFI is indicated as 'Optional' the file may support an SFI.

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.

4.4.2.1 EF_{PBR} (Phone Book Reference file)

This file describes the structure of the phonebook. All EFs representing the phonebook are specified here (with the exception of EF_{PSC}, EF_{PUID} and EF_{CC}), together with their file identifiers (FID) and their short file identifiers (SFI), if applicable.

Certain kinds of EFs can occur more than once in the phonebook, e.g. there may be two entities of Abbreviated Dialling Numbers, EF_{ADN} and EF_{ADN1}. For these kinds of EFs, no fixed FID values are specified. Instead, the value '4FXX' indicates that the value is to be assigned by the card issuer. These assigned values are then indicated in the associated TLV object in EF_{PBR}.

~~It is mandatory for EFs stating an SFI value ('YY') in the description of their structure to provide an SFI. For files where in the file description the SFI is indicated as 'Optional' the file may support an SFI.~~ The SFI value assigned to an EF which is indicated in EF_{PBR} shall correspond to the SFI indicated in the TLV object in EF_{PBR}.

The reference file is a file that contains information how the information in the different files is to be combined together to form a phone book entry. The reference file contains records. Each record specifies the structure of up to 254 entries in the phone book. Each phone book entry consists of data stored in files indicated in the reference file record. The entry structure shall be the same over all the records in the EF $_{PBR}$. If more than 254 entries are to be stored, a second record is needed in the reference file. The structure of a phone book entry is defined by different TLV objects that are stored in a reference file record. The reference file record structure describes the way a record in a file that is part of the phonebook is used to create a complete entry. Three different types of file linking exist.

- Type 1 files: Files that contain as many records as the reference/master file (EF_{ADN}, EF_{ADN1}) and are linked on record number bases (Rec1 -> Rec1). The master file record number is the reference.
- Type 2 files: Files that contain less entries than the master file and are linked via pointers in the index administration file (EF_{IAP}).
- Type 3 files are files that are linked by a record identifier within a record.

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Category:	⌘	**A**
Release:	⌘	Rel-4

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Consequences if not approved:	⌘	Risk of wrong implementations, due to the fact that it is not clear if SFIs are mandatory or not for some files.

Clauses affected:	⌘	4, 4.4.2.1

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

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EFs are mandatory (M), 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.

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

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This file describes the structure of the phonebook. All EFs representing the phonebook are specified here (with the exception of EF_{PSC}, EF_{PUID} and EF_{CC}), together with their file identifiers (FID) and their short file identifiers (SFI), if applicable.

Certain kinds of EFs can occur more than once in the phonebook, e.g. there may be two entities of Abbreviated Dialling Numbers, EF_{ADN} and EF_{ADN1}. For these kinds of EFs, no fixed FID values are specified. Instead, the value '4FXX' indicates that the value is to be assigned by the card issuer. These assigned values are then indicated in the associated TLV object in EF_{PBR}.

~~It is mandatory for EFs stating an SFI value ('YY') in the description of their structure to provide an SFI. For files where in the file description the SFI is indicated as 'Optional' the file may support an SFI.~~ The SFI value assigned to an EF which is indicated in EF_{PBR} shall correspond to the SFI indicated in the TLV object in EF_{PBR}..

The reference file is a file that contains information how the information in the different files is to be combined together to form a phone book entry. The reference file contains records. Each record specifies the structure of up to 254 entries in the phone book. Each phone book entry consists of data stored in files indicated in the reference file record. The entry structure shall be the same over all the records in the EF $_{PBR}$. If more than 254 entries are to be stored, a second record is needed in the reference file. The structure of a phone book entry is defined by different TLV objects that are stored in a reference file record. The reference file record structure describes the way a record in a file that is part of the phonebook is used to create a complete entry. Three different types of file linking exist.

- Type 1 files: Files that contain as many records as the reference/master file (EF_{ADN}, EF_{ADN1}) and are linked on record number bases (Rec1 -> Rec1). The master file record number is the reference.
- Type 2 files: Files that contain less entries than the master file and are linked via pointers in the index administration file (EF_{IAP}).
- Type 3 files are files that are linked by a record identifier within a record.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-031034⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **193** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Correction to the description of mandatory SFIs
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	21/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	Clarifications to the SFI description types. Mandatory SFI can also apply for files which are not referenced by EF_{PBR}.
Summary of change:	⌘	The SFI description types are classified into mandatory, optional and not allowed. Added the clarification that EF_{PSC}, EF_{PUID} and EF_{CC}, although they're part of the phonebook, are not referenced in EF_{PBR}
Consequences if not approved:	⌘	Risk of wrong implementations, due to the fact that it is not clear if SFIs are mandatory or not for some files.

Clauses affected:	⌘	4, 4.2.9, 4.4.2.1, 4.4.2.7, 4.4.2.8, Annex H.1

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

Other comments:	⌘	Rel-5 equivalent to Rel-4 CRs: CR162 (TP-030179) plus CR192 (T3-031033) Equivalent CR needed for Rel-6.

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).

A file is associated with attributes that depending of the file type indicates how data is to be accessed e.g. file size, record length etc. Although in the present document some files and data items stored in a file are indicated as having a fixed length; when reading such structures the terminal shall derive the length of the data item from the attributes provided in the file information i.e. not use the fixed value specified for the file in the present document. Although the terminal is able to read the entire structure it should only use those elements in the data item which is recognised by the terminal.

EFs are mandatory (M), 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.

For any EF, when the SFI is not indicated in the description of the file it is not allowed to assign an SFI. If in the description of the file an SFI value is indicated the file shall support SFI. The SFI value shall be assigned by the card issuer. It is mandatory for EFs stating an SFI value ('YY') in the description of their structure to provide an SFI. For files where in the file description the SFI is indicated as 'Optional' the file may support an SFI.

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.

4.2.9 EF_{ACM} (Accumulated Call Meter)

This EF contains the total number of units for both the current call and the preceding calls.

NOTE: The information may be used to provide an indication to the user for advice or as a basis for the calculation of the monetary cost of calls (see TS 22.086 [15]).

Identifier: '6F39'	Structure: cyclic	Optional
SFI: Optional~~Recommended~~		
Record length: 3 bytes	Update activity: high	

Access Conditions:

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

Bytes	Description	M/O	Length
1 to 3	Accumulated count of units	M	3 bytes

NOTE:
If a SFI is assigned, the recommended value is '1C'. However cards may exist that indicate another value. Therefore the terminal shall be able to handle other values.

- Accumulated count of units
  Contents:
  value of the ACM.
  Coding:
  see the coding of EF_{ACMmax}.

If a GSM application is present on the UICC and the ACM value is to be shared between the GSM and the USIM application this file shall be shared between the two applications.

4.4.2.1 EF_{PBR} (Phone Book Reference file)

This file describes the structure of the phonebook. All EFs representing the phonebook are specified here (with the exception of EF_{PSC}, EF_{PUID} and EF_{CC}), together with their file identifiers (FID) and their short file identifiers (SFI), if applicable.

Certain kinds of EFs can occur more than once in the phonebook, e.g. there may be two entities of Abbreviated Dialling Numbers, EF_{ADN} and EF_{ADN1}. For these kinds of EFs, no fixed FID values are specified. Instead, the value '4FXX' indicates that the value is to be assigned by the card issuer. These assigned values are then indicated in the associated TLV object in EF_{PBR}.

~~EFs stating an SFI value ('YY') in the description of their structure shall provide an SFI. The value shall be assigned by the card issuer and is indicated in the associated TLV object in EF_{PBR}.~~ The SFI value assigned to an EF which is indicated in EF_{PBR} shall correspond to the SFI indicated in the TLV object in EF_{PBR}.

The reference file is a file that contains information how the information in the different files is to be combined together to form a phone book entry. The reference file contains records. Each record specifies the structure of up to 254 entries in the phone book. Each phone book entry consists of data stored in files indicated in the reference file record. The entry structure shall be the same over all the records in the EF $_{PBR}$. If more than 254 entries are to be stored, a second record is needed in the reference file. The structure of a phone book entry is defined by different TLV objects that are stored in a reference file record. The reference file record structure describes the way a record in a file that is part of the phonebook is used to create a complete entry. Three different types of file linking exist.

- Type 1 files: Files that contain as many records as the reference/master file (EF_{ADN}, EF_{ADN1}) and are linked on record number bases (Rec1 -> Rec1). The master file record number is the reference.
- Type 2 files: Files that contain less entries than the master file and are linked via pointers in the index administration file (EF_{IAP}).
- Type 3 files are files that are linked by a record identifier within a record.

4.4.2.7 EF_{AAS} (Additional number Alpha String)

This file contains the alpha strings that are associated with the user defined naming tags for additional numbers referenced in EF_{ANR}.

Structure of EF_{AAS}

Identifier: '4FXX'		Structure: linear fixed		Optional
SFI: Optional				
Record length: X bytes		Update activity: low		
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM				
Bytes	Description		M/O	Length
1 to X	Alpha text string		M	X bytes

- Alpha text string.

  Content:
  - user defined text for additional number.

  Coding:
  - same as the alpha identifier in EF_{ADN}.

4.4.2.8 EF_{GAS} (Grouping information Alpha String)

This file contains the alpha strings that are associated with the group name referenced in EF_{GRP}.

Structure of EF_{GAS}

Identifier: '4FXX'		Structure: linear fixed		Conditional (see Note)
SFI: Optional				
Record length: X bytes		Update activity: low		
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM				
Bytes	Description		M/O	Length
1 to X	Alpha text string		M	X bytes
NOTE: This file is mandatory if and only if EF_{GRP} is present.				

- Alpha text string

  Content:
  - group names.

  Coding:
  - same as the alpha identifier in EF_{ADN}.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	HPLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6FC5'	'19'	PLMN Network Name
'6FC6'	'1A'	Operator Network List
'6FCD'	'1B'	Service Provider Display Information
‘6F39’	‘1C’	Accumulated Call Meter
NOTE: When used the value ‘1C’ shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.		

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc T3-031035⌘

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **194** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Correction to the description of mandatory SFIs
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	21/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	Clarifications to the SFI description types.Mandatory SFI can also apply for files which are not referenced by EF_{PBR} .
Summary of change:	⌘	The SFI description types are classified into mandatory, optional and not allowed. Added the clarification that EF_{PSC}, EF_{PUID} and EF_{CC}, although they're part of the phonebook, are not referenced in EF_{PBR}
Consequences if not approved:	⌘	Risk of wrong implementations, due to the fact that it is not clear if SFIs are mandatory or not for some files.

Clauses affected:	⌘	4, 4.2.9, 4.4.2.1, 4.4.2.7, 4.4.2.8, Annex H.1

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

Other comments:	⌘	Rel-6 equivalent to Rel-5 CR193 (T3-031034)

4 Contents of the Files

This clause specifies the EFs for the 3GPP 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.

A file is associated with attributes that depending of the file type indicates how data is to be accessed e.g. file size, record length etc. Although in the present document some files and data items stored in a file are indicated as having a fixed length; when reading such structures the terminal shall derive the length of the data item from the attributes provided in the file information i.e. not use the fixed value specified for the file in the present document. Although the terminal is able to read the entire structure it should only use those elements in the data item which is recognised by the terminal.

For any EF, when the SFI is not indicated in the description of the file it is not allowed to assign an SFI. If in the description of the file an SFI value is indicated the file shall support SFI. The SFI value shall be assigned by the card issuer. It is mandatory for EFs stating an SFI value ('YY') in the description of their structure to provide an SFI. For files where in the file description the SFI is indicated as 'Optional' the file may support an SFI.

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

4.2.9 EF_{ACM} (Accumulated Call Meter)

This EF contains the total number of units for both the current call and the preceding calls.

NOTE: The information may be used to provide an indication to the user for advice or as a basis for the calculation of the monetary cost of calls (see TS 22.086 [15]).

Identifier: '6F39'	Structure: cyclic	Optional
SFI: Optional~~Recommended~~		
Record length: 3 bytes	Update activity: high	

Access Conditions:

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

Bytes	Description	M/O	Length
1 to 3	Accumulated count of units	M	3 bytes

NOTE:
If a SFI is assigned, the recommended value is '1C'. However cards may exist that indicate another value. Therefore the terminal shall be able to handle other values.

- Accumulated count of units
  Contents:
  value of the ACM.
  Coding:
  see the coding of EF_{ACMmax}.

If a GSM application is present on the UICC and the ACM value is to be shared between the GSM and the USIM application this file shall be shared between the two applications.

4.4.2.1 EF_{PBR} (Phone Book Reference file)

This file describes the structure of the phonebook. All EFs representing the phonebook are specified here (with the exception of EF_{PSC}, EF_{PUID} and EF_{CC}), together with their file identifiers (FID) and their short file identifiers (SFI), if applicable.

Certain kinds of EFs can occur more than once in the phonebook, e.g. there may be two entities of Abbreviated Dialling Numbers, EF_{ADN} and EF_{ADN1}. For these kinds of EFs, no fixed FID values are specified. Instead, the value '4FXX' indicates that the value is to be assigned by the card issuer. These assigned values are then indicated in the associated TLV object in EF_{PBR}.

~~EFs stating an SFI value ('YY') in the description of their structure shall provide an SFI. The value shall be assigned by the card issuer and is indicated in the associated TLV object in EF_{PBR}.~~ The SFI value assigned to an EF which is indicated in EF_{PBR} shall correspond to the SFI indicated in the TLV object in EF_{PBR}.

The reference file is a file that contains information how the information in the different files is to be combined together to form a phone book entry. The reference file contains records. Each record specifies the structure of up to 254 entries in the phone book. Each phone book entry consists of data stored in files indicated in the reference file record. The entry structure shall be the same over all the records in the EF $_{PBR}$. If more than 254 entries are to be stored, a second record is needed in the reference file. The structure of a phone book entry is defined by different TLV objects that are stored in a reference file record. The reference file record structure describes the way a record in a file that is part of the phonebook is used to create a complete entry. Three different types of file linking exist.

- Type 1 files: Files that contain as many records as the reference/master file (EF_{ADN}, EF_{ADN1}) and are linked on record number bases (Rec1 -> Rec1). The master file record number is the reference.
- Type 2 files: Files that contain less entries than the master file and are linked via pointers in the index administration file (EF_{IAP}).
- Type 3 files are files that are linked by a record identifier within a record.

4.4.2.7 EF_{AAS} (Additional number Alpha String)

This file contains the alpha strings that are associated with the user defined naming tags for additional numbers referenced in EF_{ANR}.

Structure of EF_{AAS}

Identifier: '4FXX'	Structure: linear fixed	Optional
SFI: Optional		
Record length: X bytes	Update activity: low	
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to X	Alpha text string	M	X bytes

- Alpha text string.

  Content:
  - user defined text for additional number.

  Coding:
  - same as the alpha identifier in EF_{ADN}.

4.4.2.8 EF_{GAS} (Grouping information Alpha String)

This file contains the alpha strings that are associated with the group name referenced in EF_{GRP}.

Structure of EF_{GAS}

Identifier: '4FXX'	Structure: linear fixed	Conditional (see Note)
SFI: Optional		
Record length: X bytes	Update activity: low	
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM		

Bytes	Description	M/O	Length
1 to X	Alpha text string	M	X bytes
NOTE: This file is mandatory if and only if EF_{GRP} is present.			

- Alpha text string

  Content:
  - group names.

  Coding:
  - same as the alpha identifier in EF_{ADN}.

H.1 List of SFI Values at the USIM ADF Level

File Identification	SFI	Description
'6FB7'	'01'	Emergency call codes
'6F05'	'02'	Language indication
'6FAD'	'03'	Administrative data
'6F38'	'04'	USIM service table
'6F56'	'05'	Enabled services table
'6F78'	'06'	Access control class
'6F07'	'07'	IMSI
'6F08'	'08'	Ciphering and integrity keys
'6F09'	'09'	Ciphering and integrity keys for packet switched domain
'6F60'	'0A'	User PLMN selector
'6F7E	'0B'	Location information
'6F73'	'0C'	Packet switched location information
'6F7B'	'0D'	Forbidden PLMNs
'6F48'	'0E'	CBMID
'6F5B'	'0F'	Hyperframe number
'6F5C'	'10'	Maximum value of hyperframe number
'6F61'	'11'	Operator PLMN selector
'6F31'	'12'	HPLMN search period
'6F62'	'13'	Preferred HPLMN access technology
'6F80'	'14'	Incoming call information
'6F81'	'15'	Outgoing call information
'6F4F'	'16'	Capability configuration parameters 2
'6F06'	'17'	Access Rule Reference
'6FC5'	'19'	PLMN Network Name
'6FC6'	'1A'	Operator Network List
'6FCD'	'1B'	Service Provider Display Information
‘6F39’	‘1C’	Accumulated Call Meter
NOTE: When used the value ‘1C’ shall be used as SFI for EF_{ACM}, for compatibility reasons the terminal shall accept other values.		

All other SFI values are reserved for future use.

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-030963

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **195** ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

*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:	⌘	Clarification of "free" entry in EF_EXT1/EF_EXT4
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change:	⌘	No clear definition of "free" record in the EF_EXT1 description. Inconsistent statements between phonebook purge procedure and EF_EXT1 file description.
Summary of change:	⌘	Clear indication of "free" record in EF_EXT1 in case of its record type '00'. After purge procedure, the record marked as "free" is set to '00FF…FF' instead of 'FF…FF'. Remove 'Note' in purge procedure section. Pre-personalization value of EF_EXT4 is '00FF…..FF'.
Consequences if not approved:	⌘	Free record implementaion may differ among terminals, then there is risk to cause an interoperability problem. The specification is inconsistent with itself.

Clauses affected:	⌘	4.4.2.4, 5.3.2, AnnexE

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

Other comments:	⌘	

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

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

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

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

4.4.2.4 EF_{EXT1} (Extension1)

This EF contains extension data of an ADN/SSC.

Extension data is caused by:

- an ADN/SSC which is greater than the 20 digit capacity of the ADN/SSC Elementary File or where common digits are required to follow an ADN/SSC string of less than 20 digits. The remainder is stored in this EF as a record, which is identified by a specified identification byte inside the ADN/SSC Elementary File. The EXT1 record in this case is specified as additional data;

- an associated called party subaddress. The EXT1 record in this case is specified as subaddress data.

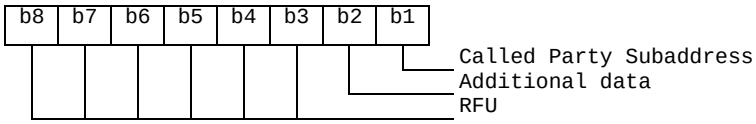
Identifier: '4FXX'	Structure: linear fixed	Optional
SFI: 'YY'		
Record length: 13 bytes	Update activity: low	

Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Record type	M	1 byte
2 to 12	Extension data	M	11 bytes
13	Identifier	M	1 byte

- Record type.
  Contents:
  - type of the record.
  Coding:



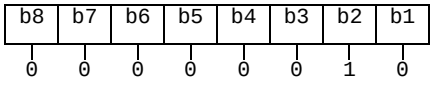
- b3-b8 are reserved and set to 0;

- a bit set to 1 identifies the type of record;

- only one type can be set;

- '00' indicates the type "unknown" or "free".

The following example of coding means that the type of extension data is "additional data":



- Extension data.
  Contents:
  additional data or Called Party Subaddress depending on record type.
  Coding:
  Case 1, Extension1 record is additional data:
  - The first byte of the extension data gives the number of bytes of the remainder of ADN/SSC. The coding of remaining bytes is BCD, according to the coding of ADN/SSC. Unused nibbles at the end shall be set

to 'F'. It is possible if the number of additional digits exceeds the capacity of the additional record to chain another record inside the EXT1 Elementary File by the identifier in byte 13.

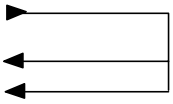
Case 2, Extension1 record is Called Party Subaddress:

- The subaddress data contains information as defined for this purpose in TS 24.008 [9]. All information defined in TS 24.008, except the information element identifier, shall be stored in the USIM. The length of this subaddress data can be up to 22 bytes. In those cases where two extension records are needed, these records are chained by the identifier field. The extension record containing the first part of the called party subaddress points to the record which contains the second part of the subaddress.

- Identifier.
  Contents:
  identifier of the next extension record to enable storage of information longer than 11 bytes.
  Coding:
  record number of next record. 'FF' identifies the end of the chain.

- Example of a chain of extension records being associated to an ADN/SSC. The extension1 record identifier (Byte 14+X) of ADN/SSC is set to 3.

No of Record	Type	Extension Data	Next
:	:	:	:
:	:	:	:
Record 3	'02'	xx xx	'06'
Record 4	'xx'	xx xx	'xx'
Record 5	'01'	xx xx	'FF'
Record 6	'01'	xx xx	'05'
:	:	:	:
:	:	:	:



In this example ADN/SSC is associated to additional data (record 3) and a called party subaddress whose length is more than 11 bytes (records 6 and 5).

Requirement: Service n°27 "available".

Request: The ME performs the reading procedure with EF_{Kc}.

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

5.3.2 Dialling numbers

Requirements:

- Service n°1 "available" for ADN located under the local phonebook;
- Presence of EFADN in EFPBR for ADN located under the global phonebook;
- Presence of EFANR in EFPBR for ANR;
- Service n°2 "available" for FDN;
- Service n°21 "available" for MSISDN;
- Service n°4 "available" for SDN;
- Service n°6 "available" for BDN;
- Service n°8 "available" for EFOCI;
- Service n°9 "available" for EFICI.

The following procedures may not only be applied to EF_{ADN} and its associated extension files EF_{CCP1} and EF_{EXT1} as described in the procedures below, but also to EF_{ANR}, EF_{FDN}, EF_{MSISDN}, EF_{BDN}, EF_{SDN}, EF_{OCI}, EF_{ICI} and their associated extension files. If these files are not allocated and activated, as denoted in the USIM service table, the current procedure shall be aborted and the appropriate EFs shall remain unchanged.

As an example, the following procedures are described as applied to ADN.

Update: The ME analyses and assembles the information to be stored as follows (the byte identifiers used below correspond to those in the definition of the relevant EFs in the present document):

i) The ME identifies the Alpha-tagging, Capability/Configuration Identifier and Extension1 Record Identifier.

ii) The dialling number/SSC string shall be analysed and allocated to the bytes of the EF as follows:

- if a "+" is found, the TON identifier is set to "International";
- if 20 or less "digits" remain, they shall form the dialling number/SSC string;
- if more than 20 "digits" remain, the procedure shall be as follows:
- The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
- The first 20 "digits" are stored in the dialling number/SSC string. The value of the length of BCD number/SSC contents is set to the maximum value, which is 11. The Extension1 record identifier is coded with the associated record number in the EF_{EXT1}. The remaining digits are stored in the selected Extension1 record where the type of the record is set to "additional data". The first byte of the Extension1 record is set with the number of bytes of the remaining additional data. The number of bytes containing digit information is the sum of the length of BCD number/SSC contents of EF_{ADN} and byte 2 of all associated chained Extension1 records containing additional data.

iii) If a called party subaddress is associated to the ADN/SSC the procedure shall proceed as follows:

- If the length of the called party subaddress is less than or equal to 11 bytes (see TS 24.008 [9] for coding):
  - The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
  - The ME stores the called party subaddress in the Extension1 record, and sets the Extension1 record type to "called party subaddress".
  - If the length of the called party subaddress is greater than 11 bytes (see TS 24.008 [9] for coding):
    - The ME seeks for two free records in EF_{EXT1}. If no such two records are found, the ME runs the Purge procedure. If two Extension1 records are still unavailable, the procedure is aborted.
    - The ME stores the called party subaddress in the two Extension1 records. The identifier field in the Extension1 record containing the first part of the subaddress data is coded with the associated EF_{EXT1} record number containing the second part of the subaddress data. Both Extension1 record types are set to "called party subaddress".

Once i), ii), and iii) have been considered the ME performs the updating procedure with EF_{ADN}. If the USIM has no available empty space to store the received ADN/SSC, or if the procedure has been aborted, the ME advises the user.

For reasons of memory efficiency, the ME may analyse all Extension1 records to recognise if the additional or subaddress data to be stored is already existing in EF_{EXT1}. In this case, the ME may use the existing chain or the last part of the existing chain from more than one ADN. The ME is only allowed to store extension data in unused records. If existing records are used for multiple access, the ME shall not change any data in those records to prevent corruption of existing chains.

Erasure: The ME sends the identification of the information to be erased. The content of the identified record in EF_{ADN} is marked as "free".

Request: The ME sends the identification of the information to be read. The ME shall analyse the data of EF_{ADN} to ascertain, whether additional data is associated in EF_{EXT1} or EF_{CCP1}. If necessary, then the ME performs the reading procedure on these EFs to assemble the complete ADN/SSC.

Purge: The ME shall access each EF which references EF_{EXT1} (EF_{EXT2}) for storage and shall identify records in these files using extension data (additional data or called party subaddress). Note that existing chains have to be followed to the end. All referred Extension1 (Extension2) records are noted by the ME. All Extension1 (Extension2) records not noted are then marked by the ME as "free" by setting the ~~whole~~ record to '00FF…FF'.

~~NOTE: Dependent upon the implementation of the ME, and in particular the possibility of erasure of ADN/SSC records by Phase 1 MEs, which have no knowledge of the EF_{EXT1}, it is possible for Extension1 records to be marked as "used space" (not equal to 'FF'), although in fact they are no longer associated with an ADN/SSC record.~~

The following three procedures are only applicable to service n°2 (FDN).

FDN capability request. The ME shall check the state of service n°2, i.e. if FDN is "enabled" or "disabled". If FDN is enabled, the ME shall only allow outgoing calls as defined in the fixed number dialling description in TS 22.101 [24]. To ascertain the state of FDN, the ME shall check in EF_{UST} and EF_{EST} if FDN is enabled (service activated and available). In all other cases service n°2 is disabled.

FDN enabling is done by activating the FDN service in EF_{EST}.

FDN disabling is done by deactivating the FDN service in EF_{EST}.

The following three procedures are only applicable to service n°6 (BDN).

- BDN capability request. The ME shall check the state of service n°6, i.e. if BDN is "enabled" or "disabled". To ascertain the state of BDN, the ME shall check in EF_{UST} and EF_{EST} if BDN is "enabled" (service available and activated). In all other cases, the BDN service is "disabled".
- BDN enabling is done by activating the BDN service in EF_{EST}.
- BDN disabling is done by deactivating the BDN service in EF_{EST}.

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	'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	'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 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'

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 TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-030964

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **196** ⌘ **rev** **-** ⌘ Current version: **4.10.0** ⌘

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

Title:	⌘	Clarification of "free" entry in EF_EXT1/EF_EXT4
Source:	⌘	TSG-T WG3
Work item code:	⌘	TEI
Date:	⌘	20/11/03
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	No clear definition of "free" record in the EF_EXT1 description. Inconsistent statements between phonebook purge procedure and EF_EXT1 file description.
Summary of change:	⌘	Clear indication of "free" record in EF_EXT1 in case of its record type '00'. After purge procedure, the record marked as "free" is set to '00FF…FF' instead of 'FF…FF'. Remove 'Note' in purge procedure section. Pre-personalization value of EF_EXT4 and EXT8 is '00FF…..FF'.
Consequences if not approved:	⌘	Free record implementaion may differ among terminals, then there is risk to cause an interoperability problem. The specification is inconsistent with itself.

Clauses affected:	⌘	4.4.2.4, 5.3.2, AnnexE

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

Other comments:	⌘	

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

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

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

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

4.4.2.4 EF_{EXT1} (Extension1)

This EF contains extension data of an ADN/SSC.

Extension data is caused by:

- an ADN/SSC which is greater than the 20 digit capacity of the ADN/SSC Elementary File or where common digits are required to follow an ADN/SSC string of less than 20 digits. The remainder is stored in this EF as a record, which is identified by a specified identification byte inside the ADN/SSC Elementary File. The EXT1 record in this case is specified as additional data;

- an associated called party subaddress. The EXT1 record in this case is specified as subaddress data.

Identifier: '4FXX'	Structure: linear fixed	Optional
SFI: 'YY'		
Record length: 13 bytes	Update activity: low	

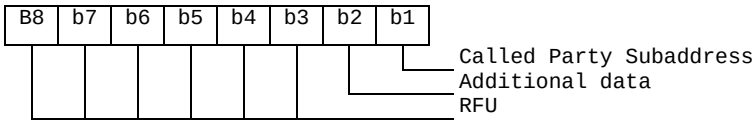
Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Record type	M	1 byte
2 to 12	Extension data	M	11 bytes
13	Identifier	M	1 byte

- Record type.
  Contents:
  - type of the record.

  Coding:



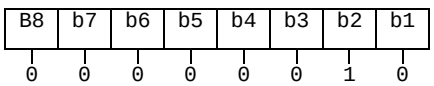
- b3-b8 are reserved and set to 0;

- a bit set to 1 identifies the type of record;

- only one type can be set;

- '00' indicates the type "unknown" or "free".

The following example of coding means that the type of extension data is "additional data":



- Extension data.
  Contents:
  additional data or Called Party Subaddress depending on record type.

Coding:

Case 1, Extension1 record is additional data:

- The first byte of the extension data gives the number of bytes of the remainder of ADN/SSC. The coding of remaining bytes is BCD, according to the coding of ADN/SSC. Unused nibbles at the end shall be set to 'F'. It is possible if the number of additional digits exceeds the capacity of the additional record to chain another record inside the EXT1 Elementary File by the identifier in byte 13. In this case byte 2 (first byte of the extension data) of all records for additional data within the same chain indicates the number of bytes ('01' to '0A') for ADN/SSC (respectively MSISDN, LND) within the same record unequal to 'FF'.

Case 2, Extension1 record is Called Party Subaddress:

- The subaddress data contains information as defined for this purpose in TS 24.008 [9]. All information defined in TS 24.008, except the information element identifier, shall be stored in the USIM. The length of this subaddress data can be up to 22 bytes. In those cases where two extension records are needed, these records are chained by the identifier field. The extension record containing the first part of the called party subaddress points to the record which contains the second part of the subaddress.

- Identifier.

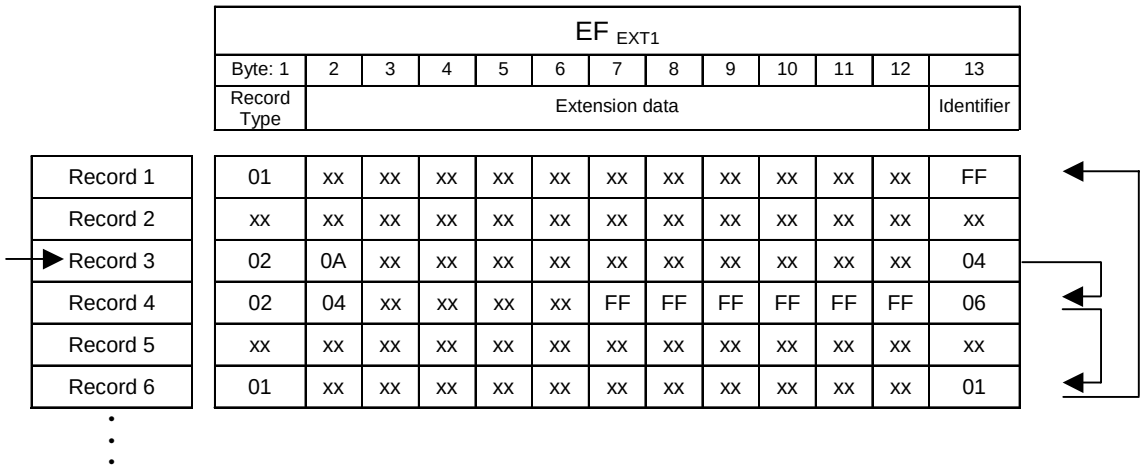
Contents:

identifier of the next extension record to enable storage of information longer than 11 bytes.

Coding:

record number of next record. 'FF' identifies the end of the chain.

- Example of a chain of extension records being associated to an ADN/SSC. The extension1 record identifier (Byte 14+X) of EF_{ADN} is set to 3.



In this example, ADN/SSC is associated to additional data (records 3 and 4) which represent the last 27 or 28 digits of the whole ADN/SSC (the first 20 digits are stored in EF_{ADN}) and a called party subaddress whose length is more than 11 bytes (records 6 and 1).

5.3.2 Dialling numbers

Requirements:

- Service n°1 "available" for ADN located under the local phonebook;
- Presence of EF_{ADN} in EF_{PBR} for ADN located under the global phonebook;
- Presence of EF_{ANR} in EF_{PBR} for ANR;
- Service n°2 "available" for FDN;
- Service n°21 "available" for MSISDN;

- Service n°4 "available" for SDN;
- Service n°6 "available" for BDN;
- Service n°8 "available" for EFOCI;
- Service n°9 "available" for EFICI.

The following procedures may not only be applied to EF_{ADN} and its associated extension files EF_{CCP1} and EF_{EXT1} as described in the procedures below, but also to EF_{ANR}, EF_{FDN}, EF_{MSISDN}, EF_{BDN}, EF_{SDN}, EF_{OCI}, EF_{ICI}, and EF_{MBDN} and their associated extension files. If these files are not allocated and activated, as denoted in the USIM service table, the current procedure shall be aborted and the appropriate EFs shall remain unchanged.

As an example, the following procedures are described as applied to ADN.

Update: The ME analyses and assembles the information to be stored as follows (the byte identifiers used below correspond to those in the definition of the relevant EFs in the present document):

i) The ME identifies the Alpha-tagging, Capability/Configuration Identifier and Extension1 Record Identifier.

ii) The dialling number/SSC string shall be analysed and allocated to the bytes of the EF as follows:

- if a "+" is found, the TON identifier is set to "International";
- if 20 or less "digits" remain, they shall form the dialling number/SSC string;
- if more than 20 "digits" remain, the procedure shall be as follows:
- The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
- The first 20 "digits" are stored in the dialling number/SSC string. The value of the length of BCD number/SSC contents is set to the maximum value, which is 11. The Extension1 record identifier is coded with the associated record number in the EF_{EXT1}. The remaining digits are stored in the selected Extension1 record where the type of the record is set to "additional data". The first byte of the Extension1 record is set with the number of bytes of the remaining additional data. The number of bytes containing digit information is the sum of the length of BCD number/SSC contents of EF_{ADN} and byte 2 of all associated chained Extension1 records containing additional data.

iii) If a called party subaddress is associated to the ADN/SSC the procedure shall proceed as follows:

- If the length of the called party subaddress is less than or equal to 11 bytes (see TS 24.008 [9] for coding):
  - The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
  - The ME stores the called party subaddress in the Extension1 record, and sets the Extension1 record type to "called party subaddress".
  - If the length of the called party subaddress is greater than 11 bytes (see TS 24.008 [9] for coding):
    - The ME seeks for two free records in EF_{EXT1}. If no such two records are found, the ME runs the Purge procedure. If two Extension1 records are still unavailable, the procedure is aborted.
    - The ME stores the called party subaddress in the two Extension1 records. The identifier field in the Extension1 record containing the first part of the subaddress data is coded with the associated EF_{EXT1} record number containing the second part of the subaddress data. Both Extension1 record types are set to "called party subaddress".

Once i), ii), and iii) have been considered the ME performs the updating procedure with EF_{ADN}. If the USIM has no available empty space to store the received ADN/SSC, or if the procedure has been aborted, the ME advises the user.

For reasons of memory efficiency, the ME may analyse all Extension1 records to recognise if the additional or subaddress data to be stored is already existing in EF_{EXT1}. In this case, the ME may use the existing chain or the last part of the existing chain from more than one ADN. The ME is only allowed to store extension data in unused records. If

existing records are used for multiple access, the ME shall not change any data in those records to prevent corruption of existing chains.

Erasure: The ME sends the identification of the information to be erased. The content of the identified record in EF_{ADN} is marked as "free".

Request: The ME sends the identification of the information to be read. The ME shall analyse the data of EF_{ADN} to ascertain, whether additional data is associated in EF_{EXT1} or EF_{CCP1}. If necessary, then the ME performs the reading procedure on these EFs to assemble the complete ADN/SSC.

Purge: The ME shall access each EF which references EF_{EXT1} (EF_{EXT2}, EF_{EXT6}) for storage and shall identify records in these files using extension data (additional data or called party subaddress). Note that existing chains have to be followed to the end. All referred Extension1 (Extension2, Extension6) records are noted by the ME. All Extension1 (Extension2, Extension6) records not noted are then marked by the ME as "free" by setting the ~~whole~~ record to '00FF...FF'.

~~NOTE: Dependent upon the implementation of the ME, and in particular the possibility of erasure of ADN/SSC records by Phase 1 MEs, which have no knowledge of the EF_{EXT1}, it is possible for Extension1 records to be marked as "used space" (not equal to 'FF'), although in fact they are no longer associated with an ADN/SSC record.~~

The following three procedures are only applicable to service n°2 (FDN).

FDN capability request. The ME shall check the state of service n°2, i.e. if FDN is "enabled" or "disabled". If FDN is enabled, the ME shall only allow outgoing calls as defined in the fixed number dialling description in TS 22.101 [24]. To ascertain the state of FDN, the ME shall check in EF_{UST} and EF_{EST} if FDN is enabled (service activated and available). In all other cases service n°2 is disabled.

FDN enabling is done by activating the FDN service in EF_{EST}.

FDN disabling is done by deactivating the FDN service in EF_{EST}.

The following three procedures are only applicable to service n°6 (BDN).

- BDN capability request. The ME shall check the state of service n°6, i.e. if BDN is "enabled" or "disabled". To ascertain the state of BDN, the ME shall check in EF_{UST} and EF_{EST} if BDN is "enabled" (service available and activated). In all other cases, the BDN service is "disabled".
- BDN enabling is done by activating the BDN service in EF_{EST}.
- BDN disabling is done by deactivating the BDN service in EF_{EST}.
-

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 Ciphering 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'
'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'
'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 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
'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	'00 FF...FF'
'6FD0'	MMS Issuer Connectivity Parameters	'FF…FF'
'6FD1'	MMS User Preferences	'FF…FF'
'6FD2'	MMS User Connectivity Parameters	'FF…FF'

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

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 24.008 [9].

3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031036

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **197** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

*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:	⌘	Clarification of "free" entry in EF_EXT1/4/8
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	21/11/03
Category:	⌘	**F**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	No clear definition of "free" record in the EF_EXT1 description. Inconsistent statements between phonebook purge procedure and EF_EXT1 file description.
Summary of change:	⌘	Clear indication of "free" record in EF_EXT1 in case of its record type '00'. After purge procedure, the record marked as "free" is set to '00FF…FF' instead of 'FF…FF'. Remove 'Note' in purge procedure section. Pre-personalization value of EF_EXT4 and EXT8 are set to '00FF…..FF'.
Consequences if not approved:	⌘	Free record implementaion may differ among terminals, then there is risk a to cause an interoperability problem. The specification is inconsistent with itself.

Clauses affected:	⌘	4.4.2.4, 5.3.2, AnnexE

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

Other comments:	⌘	

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

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

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

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are

4.4.2.4 EF_{EXT1} (Extension1)

This EF contains extension data of an ADN/SSC.

Extension data is caused by:

- an ADN/SSC which is greater than the 20 digit capacity of the ADN/SSC Elementary File or where common digits are required to follow an ADN/SSC string of less than 20 digits. The remainder is stored in this EF as a record, which is identified by a specified identification byte inside the ADN/SSC Elementary File. The EXT1 record in this case is specified as additional data;
- an associated called party subaddress. The EXT1 record in this case is specified as subaddress data.

Identifier: '4FXX'	Structure: linear fixed	Optional
SFI: 'YY'		
Record length: 13 bytes	Update activity: low	

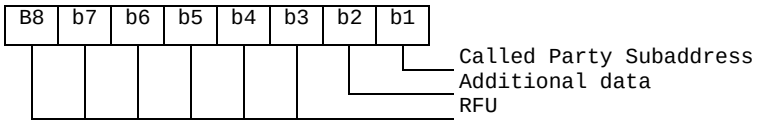
Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Record type	M	1 byte
2 to 12	Extension data	M	11 bytes
13	Identifier	M	1 byte

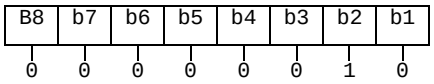
- Record type.
  Contents:
  - type of the record.

  Coding:



- b3-b8 are reserved and set to 0;
- a bit set to 1 identifies the type of record;
- only one type can be set;
- '00' indicates the type "unknown" or "free".

The following example of coding means that the type of extension data is "additional data":



- Extension data.
  Contents:
  additional data or Called Party Subaddress depending on record type.

  Coding:
  Case 1, Extension1 record is additional data:
  - The first byte of the extension data gives the number of bytes of the remainder of ADN/SSC. The coding of remaining bytes is BCD, according to the coding of ADN/SSC. Unused nibbles at the end shall be set to 'F'. It is possible if the number of additional digits exceeds the capacity of the additional record to chain another record inside the EXT1 Elementary File by the identifier in byte 13. In this case byte 2 (first byte

of the extension data) of all records for additional data within the same chain indicates the number of bytes ('01' to '0A') for ADN/SSC (respectively MSISDN, LND) within the same record unequal to 'FF'.

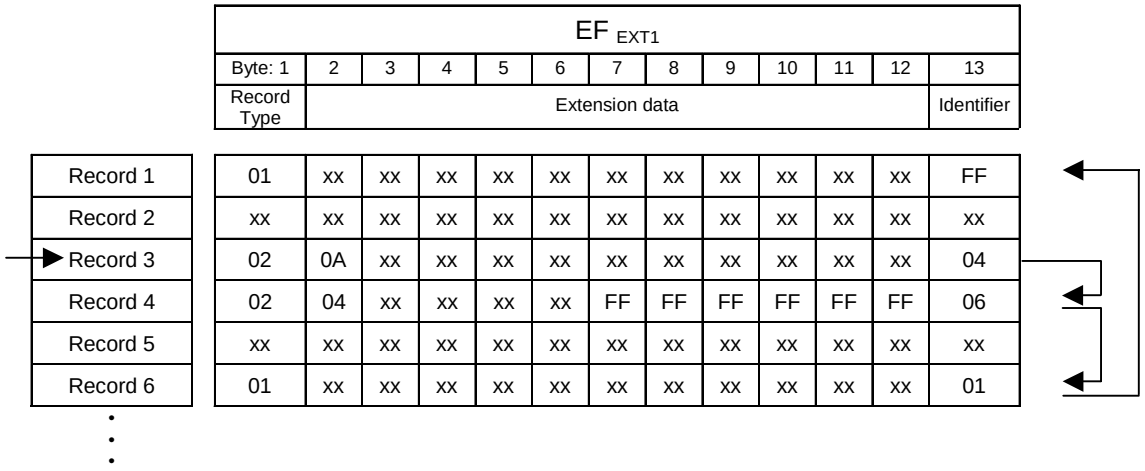
Case 2, Extension1 record is Called Party Subaddress:

- The subaddress data contains information as defined for this purpose in TS 24.008 [9]. All information defined in TS 24.008, except the information element identifier, shall be stored in the USIM. The length of this subaddress data can be up to 22 bytes. In those cases where two extension records are needed, these records are chained by the identifier field. The extension record containing the first part of the called party subaddress points to the record which contains the second part of the subaddress.

- Identifier.
  Contents:
  identifier of the next extension record to enable storage of information longer than 11 bytes.

  Coding:
  record number of next record. 'FF' identifies the end of the chain.

- Example of a chain of extension records being associated to an ADN/SSC. The extension1 record identifier (Byte 14+X) of EF_{ADN} is set to 3.



	EF EXT1												
	Byte: 1	2	3	4	5	6	7	8	9	10	11	12	13
	Record Type	Extension data											Identifier
Record 1	01	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	FF
Record 2	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Record 3	02	0A	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	04
Record 4	02	04	xx	xx	xx	xx	FF	FF	FF	FF	FF	FF	06
Record 5	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Record 6	01	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	01

In this example, ADN/SSC is associated to additional data (records 3 and 4) which represent the last 27 or 28 digits of the whole ADN/SSC (the first 20 digits are stored in EF_{ADN}) and a called party subaddress whose length is more than 11 bytes (records 6 and 1).

5.3.2 Dialling numbers

Requirements:

- Service n°1 "available" for ADN located under the local phonebook;
- Presence of EF_{ADN} in EF_{PBR} for ADN located under the global phonebook;
- Presence of EF_{ANR} in EF_{PBR} for ANR;
- Service n°2 "available" for FDN;
- Service n°21 "available" for MSISDN;
- Service n°4 "available" for SDN;
- Service n°6 "available" for BDN;
- Service n°8 "available" for EFOCI;

- Service n°9 "available" for EFICI.

The following procedures may not only be applied to EF_{ADN} and its associated extension files EF_{CCP1} and EF_{EXT1} as described in the procedures below, but also to EF_{ANR}, EF_{FDN}, EF_{MSISDN}, EF_{BDN}, EF_{SDN}, EF_{OCI}, EF_{ICI}, and EF_{MBDN} and their associated extension files. If these files are not allocated and activated, as denoted in the USIM service table, the current procedure shall be aborted and the appropriate EFs shall remain unchanged.

As an example, the following procedures are described as applied to ADN.

Update: The ME analyses and assembles the information to be stored as follows (the byte identifiers used below correspond to those in the definition of the relevant EFs in the present document):

i) The ME identifies the Alpha-tagging, Capability/Configuration Identifier and Extension1 Record Identifier.

ii) The dialling number/SSC string shall be analysed and allocated to the bytes of the EF as follows:

- if a "+" is found, the TON identifier is set to "International";
- if 20 or less "digits" remain, they shall form the dialling number/SSC string;
- if more than 20 "digits" remain, the procedure shall be as follows:
- The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
- The first 20 "digits" are stored in the dialling number/SSC string. The value of the length of BCD number/SSC contents is set to the maximum value, which is 11. The Extension1 record identifier is coded with the associated record number in the EF_{EXT1}. The remaining digits are stored in the selected Extension1 record where the type of the record is set to "additional data". The first byte of the Extension1 record is set with the number of bytes of the remaining additional data. The number of bytes containing digit information is the sum of the length of BCD number/SSC contents of EF_{ADN} and byte 2 of all associated chained Extension1 records containing additional data.

iii) If a called party subaddress is associated to the ADN/SSC the procedure shall proceed as follows:

- If the length of the called party subaddress is less than or equal to 11 bytes (see TS 24.008 [9] for coding):
  - The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
  - The ME stores the called party subaddress in the Extension1 record, and sets the Extension1 record type to "called party subaddress".
  - If the length of the called party subaddress is greater than 11 bytes (see TS 24.008 [9] for coding):
    - The ME seeks for two free records in EF_{EXT1}. If no such two records are found, the ME runs the Purge procedure. If two Extension1 records are still unavailable, the procedure is aborted.
    - The ME stores the called party subaddress in the two Extension1 records. The identifier field in the Extension1 record containing the first part of the subaddress data is coded with the associated EF_{EXT1} record number containing the second part of the subaddress data. Both Extension1 record types are set to "called party subaddress".

Once i), ii), and iii) have been considered the ME performs the updating procedure with EF_{ADN}. If the USIM has no available empty space to store the received ADN/SSC, or if the procedure has been aborted, the ME advises the user.

For reasons of memory efficiency, the ME may analyse all Extension1 records to recognise if the additional or subaddress data to be stored is already existing in EF_{EXT1}. In this case, the ME may use the existing chain or the last part of the existing chain from more than one ADN. The ME is only allowed to store extension data in unused records. If existing records are used for multiple access, the ME shall not change any data in those records to prevent corruption of existing chains.

Erasure: The ME sends the identification of the information to be erased. The content of the identified record in EF_{ADN} is marked as "free".

Request: The ME sends the identification of the information to be read. The ME shall analyse the data of EF_{ADN} to ascertain, whether additional data is associated in EF_{EXT1} or EF_{CCP1}. If necessary, then the ME performs the reading procedure on these EFs to assemble the complete ADN/SSC.

Purge: The ME shall access each EF which references EF_{EXT1} (EF_{EXT2}, EF_{EXT6}) for storage and shall identify records in these files using extension data (additional data or called party subaddress). Note that existing chains have to be followed to the end. All referred Extension1 (Extension2, Extension6) records are noted by the ME. All Extension1 (Extension2, Extension6) records not noted are then marked by the ME as "free" by setting the ~~whole~~ record to '00FF…FF'.

~~NOTE: Dependent upon the implementation of the ME, and in particular the possibility of erasure of ADN/SSC records by Phase 1 MEs, which have no knowledge of the EF_{EXT1}, it is possible for Extension1 records to be marked as "used space" (not equal to 'FF'), although in fact they are no longer associated with an ADN/SSC record.~~

The following three procedures are only applicable to service n°2 (FDN).

FDN capability request. The ME shall check the state of service n°2, i.e. if FDN is "enabled" or "disabled". If FDN is enabled, the ME shall only allow outgoing calls as defined in the fixed number dialling description in TS 22.101 [24]. To ascertain the state of FDN, the ME shall check in EF_{UST} and EF_{EST} if FDN is enabled (service activated and available). In all other cases service n°2 is disabled.

FDN enabling is done by activating the FDN service in EF_{EST}.

FDN disabling is done by deactivating the FDN service in EF_{EST}.

The following three procedures are only applicable to service n°6 (BDN).

- BDN capability request. The ME shall check the state of service n°6, i.e. if BDN is "enabled" or "disabled". To ascertain the state of BDN, the ME shall check in EF_{UST} and EF_{EST} if BDN is "enabled" (service available and activated). In all other cases, the BDN service is "disabled".
- BDN enabling is done by activating the BDN service in EF_{EST}.
- BDN disabling is done by deactivating the BDN service in EF_{EST}.

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'
'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'
'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 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
'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'

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.

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3GPP TSG-T3 Meeting #29
Dallas, USA, 18-21 November 2003

Tdoc ⌘T3-031037

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** **198** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

*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:	⌘	Clarification of “free” entry in EF_EXT1/4/8
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	21/11/03
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:

- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	No clear definition of “free” record in the EF_EXT1 description. Inconsistent statements between phonebook purge procedure and EF_EXT1 file description.
Summary of change:	⌘	Clear indication of “free” record in EF_EXT1 in case of its record type ‘00’. After purge procedure, the record marked as “free” is set to ‘00FF…FF’ instead of ‘FF…FF’. Remove ‘Note’ in purge procedure section. Pre-personalization value of EF_EXT4 and EXT8 are set to ‘00FF…..FF’.
Consequences if not approved:	⌘	Free record implementaion may differ among terminals, then there is risk a to cause an interoperability problem. The specification is inconsistent with itself.

Clauses affected:	⌘	4.4.2.4, 5.3.2, AnnexE

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

How to create CRs using this form:

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.

4.4.2.4 EF_{EXT1} (Extension1)

This EF contains extension data of an ADN/SSC.

Extension data is caused by:

- an ADN/SSC which is greater than the 20 digit capacity of the ADN/SSC Elementary File or where common digits are required to follow an ADN/SSC string of less than 20 digits. The remainder is stored in this EF as a record, which is identified by a specified identification byte inside the ADN/SSC Elementary File. The EXT1 record in this case is specified as additional data;
- an associated called party subaddress. The EXT1 record in this case is specified as subaddress data.

Identifier: '4FXX'	Structure: linear fixed	Optional
SFI: 'YY'		
Record length: 13 bytes	Update activity: low	

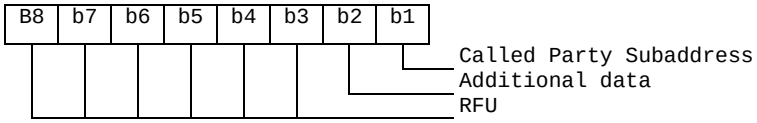
Access Conditions:

READ	PIN
UPDATE	PIN
DEACTIVATE	ADM
ACTIVATE	ADM

Bytes	Description	M/O	Length
1	Record type	M	1 byte
2 to 12	Extension data	M	11 bytes
13	Identifier	M	1 byte

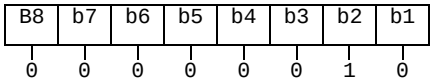
- Record type.
  Contents:
  - type of the record.

  Coding:



- b3-b8 are reserved and set to 0;
- a bit set to 1 identifies the type of record;
- only one type can be set;
- '00' indicates the type "unknown" or "free".

The following example of coding means that the type of extension data is "additional data":



- Extension data.
  Contents:
  additional data or Called Party Subaddress depending on record type.

  Coding:
  Case 1, Extension1 record is additional data:
  - The first byte of the extension data gives the number of bytes of the remainder of ADN/SSC. The coding of remaining bytes is BCD, according to the coding of ADN/SSC. Unused nibbles at the end shall be set

to 'F'. It is possible if the number of additional digits exceeds the capacity of the additional record to chain another record inside the EXT1 Elementary File by the identifier in byte 13. In this case byte 2 (first byte of the extension data) of all records for additional data within the same chain indicates the number of bytes ('01' to '0A') for ADN/SSC (respectively MSISDN, LND) within the same record unequal to 'FF'.

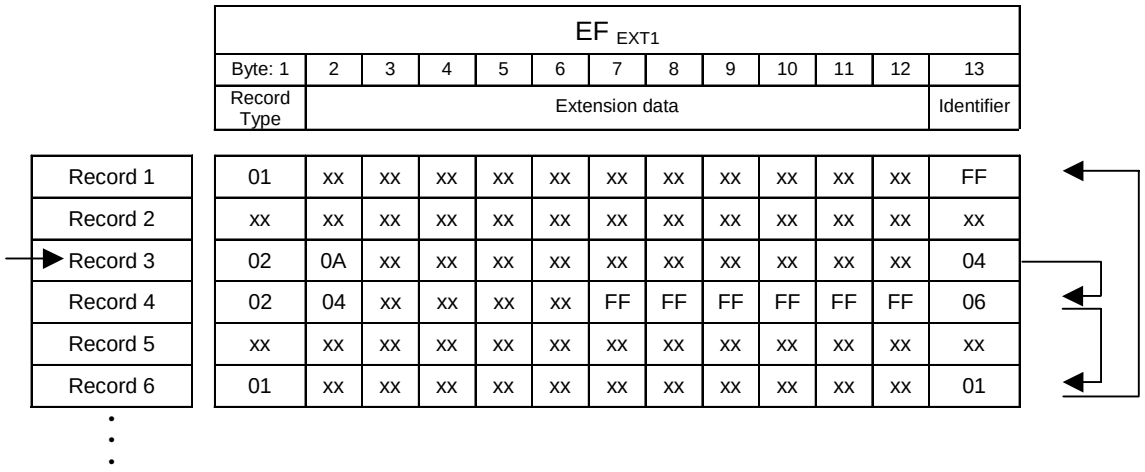
Case 2, Extension1 record is Called Party Subaddress:

- The subaddress data contains information as defined for this purpose in TS 24.008 [9]. All information defined in TS 24.008, except the information element identifier, shall be stored in the USIM. The length of this subaddress data can be up to 22 bytes. In those cases where two extension records are needed, these records are chained by the identifier field. The extension record containing the first part of the called party subaddress points to the record which contains the second part of the subaddress.

- Identifier.
  Contents:
  identifier of the next extension record to enable storage of information longer than 11 bytes.

  Coding:
  record number of next record. 'FF' identifies the end of the chain.

- Example of a chain of extension records being associated to an ADN/SSC. The extension1 record identifier (Byte 14+X) of EF_{ADN} is set to 3.



In this example, ADN/SSC is associated to additional data (records 3 and 4) which represent the last 27 or 28 digits of the whole ADN/SSC (the first 20 digits are stored in EF_{ADN}) and a called party subaddress whose length is more than 11 bytes (records 6 and 1).

5.3.2 Dialling numbers

Requirements:

- Service n°1 "available" for ADN located under the local phonebook;
- Presence of EF_{ADN} in EF_{PBR} for ADN located under the global phonebook;
- Presence of EF_{ANR} in EF_{PBR} for ANR;
- Service n°2 "available" for FDN;
- Service n°21 "available" for MSISDN;
- Service n°4 "available" for SDN;
- Service n°6 "available" for BDN;

- Service n°8 "available" for EFOCI;
- Service n°9 "available" for EFICI.

The following procedures may not only be applied to EF_{ADN} and its associated extension files EF_{CCP1} and EF_{EXT1} as described in the procedures below, but also to EF_{ANR}, EF_{FDN}, EF_{MSISDN}, EF_{BDN}, EF_{SDN}, EF_{OCI}, EF_{ICI}, and EF_{MBDN} and their associated extension files. If these files are not allocated and activated, as denoted in the USIM service table, the current procedure shall be aborted and the appropriate EFs shall remain unchanged.

As an example, the following procedures are described as applied to ADN.

Update: The ME analyses and assembles the information to be stored as follows (the byte identifiers used below correspond to those in the definition of the relevant EFs in the present document):

i) The ME identifies the Alpha-tagging, Capability/Configuration Identifier and Extension1 Record Identifier.

ii) The dialling number/SSC string shall be analysed and allocated to the bytes of the EF as follows:

- if a "+" is found, the TON identifier is set to "International";
- if 20 or less "digits" remain, they shall form the dialling number/SSC string;
- if more than 20 "digits" remain, the procedure shall be as follows:
- The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
- The first 20 "digits" are stored in the dialling number/SSC string. The value of the length of BCD number/SSC contents is set to the maximum value, which is 11. The Extension1 record identifier is coded with the associated record number in the EF_{EXT1}. The remaining digits are stored in the selected Extension1 record where the type of the record is set to "additional data". The first byte of the Extension1 record is set with the number of bytes of the remaining additional data. The number of bytes containing digit information is the sum of the length of BCD number/SSC contents of EF_{ADN} and byte 2 of all associated chained Extension1 records containing additional data.

iii) If a called party subaddress is associated to the ADN/SSC the procedure shall proceed as follows:

- If the length of the called party subaddress is less than or equal to 11 bytes (see TS 24.008 [9] for coding):
  - The ME seeks for a free record in EF_{EXT1}. If an Extension1 record is not marked as "free", the ME runs the Purge procedure. If an Extension1 record is still unavailable, the procedure is aborted.
  - The ME stores the called party subaddress in the Extension1 record, and sets the Extension1 record type to "called party subaddress".
  - If the length of the called party subaddress is greater than 11 bytes (see TS 24.008 [9] for coding):
    - The ME seeks for two free records in EF_{EXT1}. If no such two records are found, the ME runs the Purge procedure. If two Extension1 records are still unavailable, the procedure is aborted.
    - The ME stores the called party subaddress in the two Extension1 records. The identifier field in the Extension1 record containing the first part of the subaddress data is coded with the associated EF_{EXT1} record number containing the second part of the subaddress data. Both Extension1 record types are set to "called party subaddress".

Once i), ii), and iii) have been considered the ME performs the updating procedure with EF_{ADN}. If the USIM has no available empty space to store the received ADN/SSC, or if the procedure has been aborted, the ME advises the user.

For reasons of memory efficiency, the ME may analyse all Extension1 records to recognise if the additional or subaddress data to be stored is already existing in EF_{EXT1}. In this case, the ME may use the existing chain or the last part of the existing chain from more than one ADN. The ME is only allowed to store extension data in unused records. If existing records are used for multiple access, the ME shall not change any data in those records to prevent corruption of existing chains.

Erasure: The ME sends the identification of the information to be erased. The content of the identified record in EF_{ADN} is marked as "free".

Request: The ME sends the identification of the information to be read. The ME shall analyse the data of EF_{ADN} to ascertain, whether additional data is associated in EF_{EXT1} or EF_{CCP1}. If necessary, then the ME performs the reading procedure on these EFs to assemble the complete ADN/SSC.

Purge: The ME shall access each EF which references EF_{EXT1} (EF_{EXT2}, EF_{EXT6}) for storage and shall identify records in these files using extension data (additional data or called party subaddress). Note that existing chains have to be followed to the end. All referred Extension1 (Extension2, Extension6) records are noted by the ME. All Extension1 (Extension2, Extension6) records not noted are then marked by the ME as "free" by setting the ~~whole~~ record to '00FF…FF'.

~~NOTE: Dependent upon the implementation of the ME, and in particular the possibility of erasure of ADN/SSC records by Phase 1 MEs, which have no knowledge of the EF_{EXT1}, it is possible for Extension1 records to be marked as "used space" (not equal to 'FF'), although in fact they are no longer associated with an ADN/SSC record.~~

The following three procedures are only applicable to service n°2 (FDN).

FDN capability request. The ME shall check the state of service n°2, i.e. if FDN is "enabled" or "disabled". If FDN is enabled, the ME shall only allow outgoing calls as defined in the fixed number dialling description in TS 22.101 [24]. To ascertain the state of FDN, the ME shall check in EF_{UST} and EF_{EST} if FDN is enabled (service activated and available). In all other cases service n°2 is disabled.

FDN enabling is done by activating the FDN service in EF_{EST}.

FDN disabling is done by deactivating the FDN service in EF_{EST}.

The following three procedures are only applicable to service n°6 (BDN).

- BDN capability request. The ME shall check the state of service n°6, i.e. if BDN is "enabled" or "disabled". To ascertain the state of BDN, the ME shall check in EF_{UST} and EF_{EST} if BDN is "enabled" (service available and activated). In all other cases, the BDN service is "disabled".
- BDN enabling is done by activating the BDN service in EF_{EST}.
- BDN disabling is done by deactivating the BDN service in EF_{EST}.

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'
'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'
'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'
'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 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
'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'

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 TSG-T3 Meeting #29
Dallas, USA, 18 – 21 November, 2003

Tdoc ⌘T3-030954

CR-Form-v7

CHANGE REQUEST

⌘ **31.102** **CR** 199 ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Correction to Annex G Phonebook Example
Source:	⌘	T3
Work item code:	⌘	TEI
Date:	⌘	19/11/2003
Category:	⌘	**F**
Release:	⌘	Rel-6

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

Use one of the following releases:

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

Reason for change:	⌘	To reflect on the SFI correction in T3#28.
Summary of change:	⌘	On table G.1, EFs for phonebook-synchronisation are added, FID for EF_{UID1} is corrected from '4F22', specified for EF_{PSC}, to '4F20', and the file-layout of phonebook-set-2 is arranged for the contrast of set-1. On table G.2 and G.3, the contents of EF_{PBR} are adjusted for all SFI applicable EFs.
Consequences if not approved:	⌘	Wrong example remains on the specification. It leads to wrong implementation.

Clauses affected:	⌘	Annex G
Other specs affected:	⌘	Y / N [ ] [ ] Other core specifications [ ] [ ] Test specifications [ ] [ ] O&M Specifications
	⌘	
Other comments:	⌘	

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

Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. In addition each entry has a 2 byte Unique ID (UID) attached to it. The phonebook also contains three files that are shared EF_{EXT1}, EF_{AAS} and EF_{GAS}. These files are addressed from inside a file. EF_{EXT1} is addressed via $EF_{ADN,}$ EF_{ADN1}, EF_{AAS} is addressed via $EF_{ANRA1,}$ EF_{ANRA1} and EF_{GAS} is addressed via $EF_{GRP,}$ EF_{GRP1}. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$

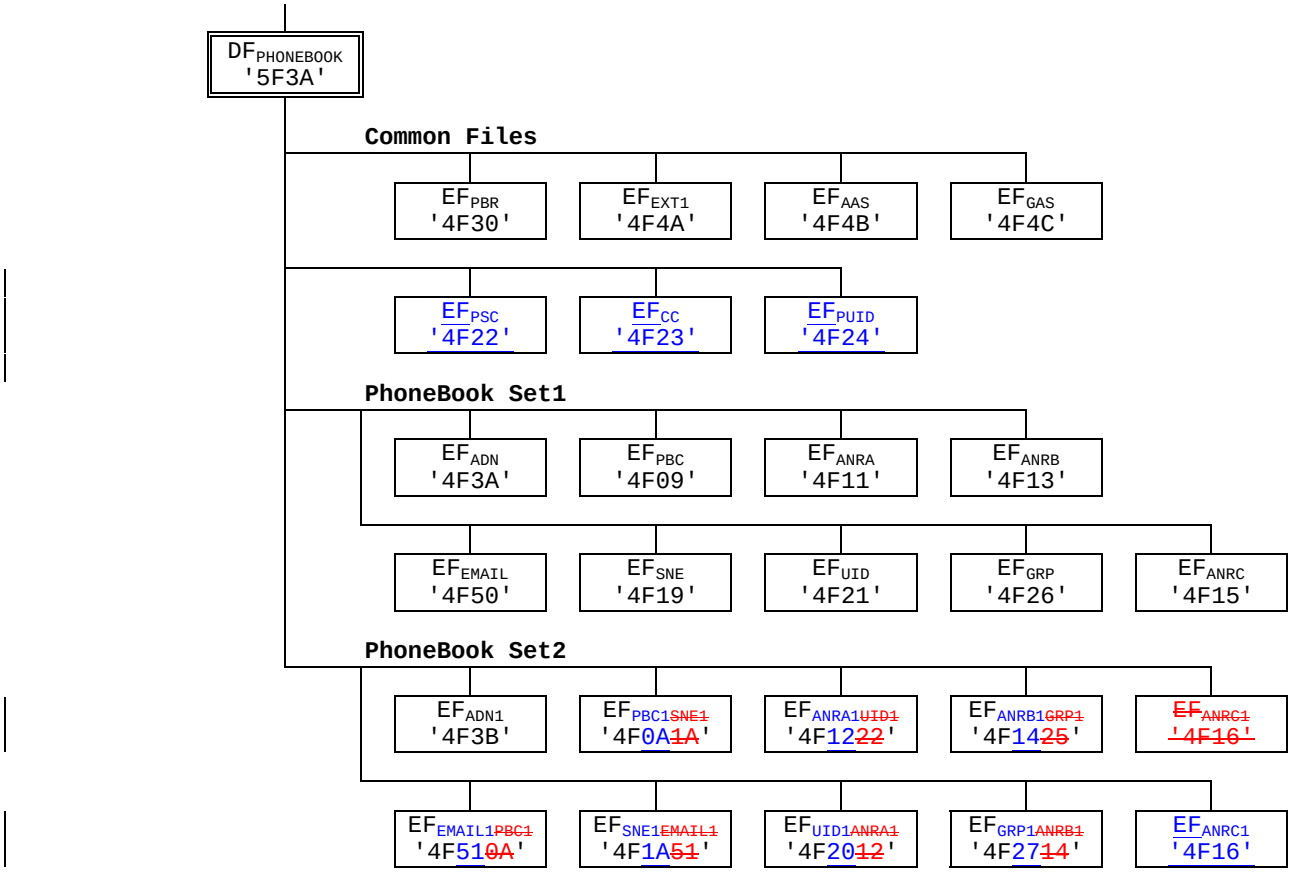

Table G.2: Contents of EF_{PBR}

Rec 1	Tag'A8'	L='2D~~2~~ ~~6~~'	(for Phonebook Set1)											
	~~Tag'C0'~~	~~L='03'~~	~~'4F3A'~~	~~'01'~~	~~Tag'C5'~~	~~L='03'~~	~~'4F09'~~	~~'02'~~	~~Tag'C6'~~	~~L='02'~~	~~'4F26'~~	~~Tag'C4'~~	~~L='02'~~	~~'4F11'~~
	Tag'C0'	L='03'	'4F3A'	'01'	Tag'C5'	L='03'	'4F09'	'02'	Tag'C6'	L='03'	'4F26'	'03'		
	~~Tag'C4'~~	~~L='02'~~	~~'4F13'~~	~~Tag'C4'~~	~~L='02'~~	~~'4F15'~~	~~Tag'C3'~~	~~L='02'~~	~~'4F19'~~	~~Tag'C9'~~	~~L='02'~~	~~'4F21'~~		
	Tag'C4'	L='03'	'4F11'	'04'	Tag'C4'	L='03'	'4F13'	'05'	Tag'C4'	L='03'	'4F15'	'06'		
	~~Tag'CA'~~	~~L='02'~~	~~'4F50'~~											
	Tag'C3'	L='03'	'4F19'	'07'	Tag'C9'	L='03'	'4F21'	'12'	Tag'CA'	L='03'	'4F50'	'09'		
	Tag'AA'	L='0F~~C~~'												
	~~Tag'C2'~~	~~L='02'~~	~~'4F4A'~~	~~Tag'C7'~~	~~L='02'~~	~~'4F4B'~~	~~Tag'C8'~~	~~L='02'~~	~~'4F4C'~~					
	Tag'C2'	L='03'	'4F4A'	'08'	Tag'C7'	L='03'	'4F4B'	'14'	Tag'C8'	L='03'	'4F4C'	'15'		
Rec 2	Tag'A8'	L='2D4'	(for Phonebook Set 2)											
	~~Tag'C0'~~	~~L='02'~~	~~'4F3B'~~	~~Tag'C5'~~	~~L='02'~~	~~'4F0A'~~	~~Tag'C6'~~	~~L='02'~~	~~'4F25'~~	~~Tag'C4'~~	~~L='02'~~	~~'4F12'~~		
	Tag'C0'	L='03'	'4F3B'	'10'	Tag'C5'	L='03'	'4F0A'	'11'	Tag'C6'	L='03'	'4F25'	'18'		
	~~Tag'C4'~~	~~L='02'~~	~~'4F14'~~	~~Tag'C4'~~	~~L='02'~~	~~'4F16'~~	~~Tag'C3'~~	~~L='02'~~	~~'4F1A'~~	~~Tag'C9'~~	~~L='02'~~	~~'4F22'~~		
	Tag'C4'	L='03'	'4F12'	'12'	Tag'C4'	L='03'	'4F14'	'13'	Tag'C4'	L='03'	'4F16'	'14'		
	~~Tag'CA'~~	~~L='02'~~	~~'4F51'~~											
	Tag'C3'	L='03'	'4F1A'	'10'	Tag'C9'	L='03'	'4F20'	'13'	Tag'CA'	L='03'	'4F51'	'11'		
	Tag'AA'	L='0F~~C~~'												
	~~Tag'C2'~~	~~L='02'~~	~~'4F4A'~~	~~Tag'C7'~~	~~L='02'~~	~~'4F4B'~~	~~Tag'C8'~~	~~L='02'~~	~~'4F4C~~	~~'FF'~~	~~'FF'~~			
	Tag'C2'	L='03'	'4F4A'	'08'	Tag'C7'	L='03'	'4F4B'	'14'	Tag'C8'	L='03'	'4F4C	'15'		

Table G.3: Structure of the 254 first entries in the phonebook

Phone book entry	ADN '4F3A' SFI '01'		PBC '4F09' SFI '02'	GRP '4F26' SFI '03'	ANRA '4F11' SFI '04'	ANRB '4F13' SFI '05'	ANRC '4F15' SFI '06'	SNE '4F19' SFI '07'	UID '4F21' SFI '12'	EXT1 '4F4A' SFI '08'	AAS '4F4B' SFI '14'	GAS '4F4C' SFI '15'	EMAIL '4F50' SFI '09'
# 1	ADN Content Bytes (1-(X+13))	EXT1 Ident. (Byte X+14): Rec '02'	Hidden (AID rec N° 3)	Rec n°1 Rec n°3 '00'	ANRA Rec n°1	ANRB Rec n°1	ANRC Rec n°1	Second Name Alpha String	UID	Rec '02'	Record numbers as defined in the ANRs	Record no.'s as defined in GRP	email address
# 2	ADN Content Bytes (1-(X+13))	EXT1 Ident. (Byte X+14): Rec '2A'	Not Hidden	Rec n°2 Rec n°1 Rec n°3	ANRA Rec n°2	ANRB Rec n°2	ANRC Rec n°2	Second Name Alpha String	UID	Rec '2A'	Record numbers as defined in the ANRs	Record no.'s as defined in GRP	email address
# 3													
:													
:													
:													
# 254													

Table G.4: Structure of phone book entries 255 to 508 (Rec 1-254)

Phone book entry	ADN1 '4F3B' SFI '0A'		PBC1 '4F0A' SFI '0B'	GRP1 '4F25' SFI '0C'	ANRA1 '4F12' SFI '0D'	ANRB1 '4F14' SFI '0E'	ANRC1 '4F16' SFI '0F'	SNE1 '4F1A' SFI '10'	UID1 '4F2022' SFI '13'	EXT1 '4F4A' SFI '08'	AAS '4F4B' SFI '14'	GAS '4F4C' SFI '15'	EMAIL1 '4F51' SFI '11'
#255	ADN Content Bytes (1-(X+13))	EXT1 Ident. (Byte X+14): Rec '02'	Hidden (AID Rec n° 3)	Rec n°1 Rec n°3 '00'	ANRA1 Rec n°1	ANRB1 Rec n°1	ANRC1 Rec n°1	Second Name Alpha String	UID	Rec '02'	Record numbers as defined in the ANRs	Record no.'s as defined in GRP1	email address
#256	ADN Content Bytes (1-(X+13))	EXT1 Ident. (Byte X+14): Rec '2A'	Not Hidden	Rec n°2 Rec n°1 Rec n°3	ANRA1 Rec n°2	ANRB1 Rec n°2	ANRC1 Rec n°2	Second Name Alpha String	UID	Rec '2A'	Record numbers as defined in the ANRs	Record no.'s as defined in GRP1	email address
#257													
:													
:													
:													
#508													