

Source: TSG-T3
Title: Change Requests to TS 31.102 "USIM"
Document for: Approval

This document contains several change requests as follows:

Doc-1st-Level	Spec	CR	Phase	Subject	Cat	Vers. old	Vers. new	Doc-2nd-Level
TP-020280	31.102	125	Rel-5	Correction to the last selected application	F	5.2.0	5.3.0	T3-020916
TP-020280	31.102	126	Rel-6	Moving of all 3GPP-specific card platform requirements from TS 31.102 to TS 31.101	D	5.2.0	6.0.0	T3-020912

Doc-1st-Level	Spec	CR	Phase	Subject	Cat	Vers. old	Vers. new	Doc-2nd-Level
TP-020280	31.102	129	R99	Essential corrections file size and record lengths in several EFs	A	3.10.0	3.11.0	T3-020941
TP-020280	31.102	127	Rel-4	Essential corrections file size and record lengths in several EFs	A	4.6.0	4.7.0	T3-020919
TP-020280	31.102	128	Rel-5	Essential corrections file size and record lengths in several EFs	A	5.2.0	5.3.0	T3-020923

CHANGE REQUEST

⌘ **31.102 CR 125** ⌘ rev **-** ⌘ Current version: **5.2.0** ⌘

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:	⌘ Correction to the last selected application		
Source:	⌘ TSG T3		
Work item code:	⌘ TEI	Date:	⌘ 07/11/2002
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The UICC stores the last selected application per application type. Therefore for the USIM, the UICC stores the last selected USIM application
Summary of change:	⌘ Indicate that the UICC stores the last selected USIM application.
Consequences if not approved:	⌘ Possible misunderstanding of the last selected application

Clauses affected:	⌘ 5.1.1.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/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.

5.1.1 Initialisation

5.1.1.1 USIM application selection

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

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

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

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

3GPP TSG-T3 Meeting #25
Maastricht, Netherlands, 05-11-2002

Tdoc* # *T3-020912

Introduction

The present document defines the Universal Subscriber Identity Module (USIM) application. This application resides on the UICC, an IC card specified in TS 31.101 [11]. In particular, TS 31.101 [11] specifies the application independent properties of the UICC/terminal interface such as the physical characteristics and the logical structure.

TS 31.101 [11] is one of the core documents for this specification and is therefore referenced in many places in the present document. ~~The detailed descriptions are no longer listed in TS 31.101, so references to TS 31.101 shall be taken to be direct references to TS 102-221.~~

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] ~~void~~[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 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.

~~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_{LOC1} the last byte takes the value 'FE' (TS 24.008 [9] refers).~~

~~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.~~

~~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.

4.1 Contents of the EFs at the MF level

There are four EFs at the Master File (MF) level. These EFs are specified in TS 31.101 [11].

~~4.1.1 EF_{DIR}~~

~~This EF contains the Application Identifier (AID) and the Application Label as mandatory elements.~~

~~The USIM application can only be selected by means of the AID selection. The EF_{DIR} entry shall not contain a path object for application selection.~~

~~It is recommended that the application label does not contain more than 32 bytes.~~

~~Contents:—~~

~~—according to TS 31.101 [11].~~

~~Coding:—~~

~~—according to TS 31.101 [11].~~

~~4.1.2 EF_{ICCID} (ICC Identity)~~

~~This EF provides a unique identification number for the ICC.~~

~~Contents:—~~

~~—according to TS 31.101 [11].~~

~~Coding:—~~

~~—according to TS 31.101 [11].~~

~~4.1.3 EF_{PL} (Preferred Languages)~~

~~This EF contains the codes for up to n languages. This information, determined by the user/operator, defines the preferred languages of the user in order of priority.~~

The information in [EF_{PL}](#) may be used by the ME for MMI purposes.

This information may also be used for the screening of Cell Broadcast messages in a preferred language, as follows.

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

~~Contents:—~~

~~—according to TS 31.101 [11].~~

~~Coding:—~~

~~—according to TS 31.101 [11].~~

~~4.1.4 EF_{ARR} (Access Rule Reference)~~

~~This EF contains the access rules for access to the EFs under the master file including this EF. This file is mandatory for the USIM application.~~

~~Contents:—~~

~~—according to TS 31.101 [11].~~

~~Coding:—~~

~~—according to TS 31.101 [11].~~

5 Application protocol

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

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

- ~~— A USIM Application command/response pair is a sequence consisting of a command and the associated response.~~
- ~~— A USIM Application procedure consists of one or more USIM Application command/response pairs which are used to perform all or part of an application oriented task. A procedure shall be considered as a whole, that is to say that the corresponding task is achieved if and only if the procedure is completed. The ME shall ensure that, when operated according to the manufacturer's manual, any unspecified interruption of the sequence of command/response pairs which realise the procedure, leads to the abortion of the procedure itself.~~
- ~~— A USIM session is the interval of time starting at the completion of the USIM initialisation procedure and ending either with the start of the 3G session termination procedure, or at the first instant the link between the UICC and the ME is interrupted.~~

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

~~The USIM shall execute all commands defined in TS 31.101 [11], if applicable for the USIM (see section 8.3 for optional commands), including USAT commands, in such a way as not to jeopardise, or cause suspension, of service provisioning to the user. This could occur if, for example, execution of the AUTHENTICATE is delayed in such a way which would result in the network denying or suspending service to the user.~~

[The requirements stated in the corresponding section of 3GPP TS 31.101 \[11\] apply to the USIM application.](#)

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

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

6.4 User verification and file access conditions

~~The USIM application uses 2 PINs for user verification, PIN and PIN2. PIN2 is used only in the ADF. The PIN and PIN2 are mapped into key references as defined in TS 31.101 [11]. The Universal PIN shall be associated with a usage qualifier. Other key references may be associated with a usage qualifier as defined in ISO/IEC 7816-9 [26]. The PIN status is indicated in the PS_DO, which is part of the FCP response when an ADF/DF is selected. The coding of the PS_DO is defined in TS 31.101 [11].~~

~~PIN and PIN2 are coded on 8 bytes. Only (decimal) digits (0-9) shall be used, coded in CCITT T.50 [23] with bit 8 set to zero. The minimum number of digits is 4. If the number of digits presented by the user is less than 8 then the ME shall pad the presented PIN with 'FF' before sending it to the USIM.~~

~~The coding of the UNBLOCK PINs is identical to the coding of the PINs. However, the number of (decimal) digits is always 8.~~

The security architecture as defined in TS 31.101 [11] applies to the USIM application with the following definitions and additions.

- The USIM application shall use a global key reference as PIN and local key reference as PIN2. For access to DF_{TELECOM} the PIN shall be verified. Access with PIN2 is limited to the ADF(USIM).
- The only valid values for the usage qualifier are '00' (verification requirement is not used) and '08' (user authentication knowledge based (PIN)) as defined in ISO/IEC 7816-9 [26]. ~~The terminal shall support the multi-application capabilities as defined in 31.101 [11].~~
- ~~Every file in the USIM application shall have a reference to an access rule stored in EF_{ARR}.~~
- ~~Every file under DF_{Telecom} shall have a reference to an access rule stored in EF_{ARR} under DF_{Telecom}.~~
- ~~A multi-application capability UICC (from the security context point of view) shall support the referenced format using SEID as defined in TS 31.101 [11].~~
- ~~A multi-application capability UICC (from the security context point of view) shall support the replacement of a USIM application PIN with the Universal PIN, key reference '11', as defined in TS 31.101 [11]. Only the Universal PIN is allowed as a replacement.~~
- ~~A terminal shall support the use of level 1 and level 2 user verification requirements as defined in TS 31.101 [11].~~
- ~~A terminal shall support the replacement of a USIM application PIN with the Universal PIN, key reference '11', as defined in TS 31.101 [11].~~
- ~~A terminal shall support the security attributes defined using tag's '8C', 'AB' and '8B' as defined in TS 31.101 [11]. In addition both the referencing methods indicated by tag '8B' shall be supported as defined in TS 31.101 [11].~~

Disabling of PIN2 is allowed. This is, however, not the case if PIN2 is mapped to the CHV2 of a GSM application.

~~The access rule is referenced in the FCP using tag '8B'. The TLV object contains the file ID (the file ID of EF_{ARR}) and record number, or file ID (the file ID of EF_{ARR}), SEID and record number, pointer to the record in EF_{ARR} where the access rule is stored. Each SEID refers to a record number in EF_{ARR}. EFs having the same access rule use the same record reference in EF_{ARR}. For an example EF_{ARR}, see TS 31.101 [11].~~

7.4 Optional commands

The following command is optional for the USIM application:

- GET CHALLENGE command.

8 ~~Void~~UICC Characteristics

The UICC characteristics are defined in TS 31.101 [11]. As TS 31.101 [11] refers to TS 102 221 [37] for the details of the characteristics, and because the scope of TS 102 221 [37] also encompasses other mobile systems, it is necessary to list those issues which are not applicable to the USIM application, which deviate from TS 102 221 [37] or options which require further precision. This clause contains such information.

8.1 ~~Voltage classes~~

A UICC holding a USIM application shall support at least two consecutive voltage classes as defined in TS 31.101 [11], e.g. AB or BC. If the UICC supports more than two classes, they shall all be consecutive, e.g. ABC.

8.2 ~~File Control Parameters (FCP)~~

This clause defines the contents of the data objects which are part of the FCP information where there is a difference compared to the values as specified in TS 31.101 [11]. This clause also specifies values for data objects in the FCP information where there is no exact value given in TS 31.101 [11] and there is a need for such from the USIM application point of view.

8.2.1 ~~Minimum application clock frequency~~

This data object is indicated by tag '82' in the proprietary constructed data object in the FCP information, identified by tag 'A5', as defined in TS 31.101 [11]. This data object specifies the minimum clock frequency to be provided by the terminal during the USIM session. The value indicated in this data object shall not exceed 3 MHz, corresponding to '1E'. The terminal shall use a clock frequency between the value specified by this data object and the maximum clock frequency for the UICC as defined in TS 31.101 [11]. If this data object is not present in the FCP response or the value is 'FF' then the terminal shall assume that the minimum clock frequency is 1 MHz.

8.3 ~~Optional commands~~

The following command is optional for the USIM application:

— GET CHALLENGE command.

CR-Form-v7

CHANGE REQUEST

⌘ **31.102 CR 127** ⌘ rev **-** ⌘ Current version: **4.6.0** ⌘

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

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

Title:	⌘ Essential corrections file size and record lengths in several EFs		
Source:	⌘ TSG T3		
Work item code:	⌘ TEI	Date:	⌘ 07/11/2002
Category:	⌘ A	Release:	⌘ Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The file size and record length bytes are incorrect in several EFs within the specification
Summary of change:	⌘ The description of file size of the file EF _{HPLMWA_{act}} and the record length in EF _{PNN} were changed to the correct length. Comments were added in the chapter "Contents of the Files".
Consequences if not approved:	⌘ Incorrect description of the file size and record length of several EFs within the specification

Clauses affected:	⌘ 4; 4.2.54; 4.2.58										
Other specs Affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 51.011 ; TS 11.11
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

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.

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.

4.2.54 EF_{HPLMNwAcT} (HPLMN selector with Access Technology)

The HPLMN Selector with access technology data field shall contain the HPLMN code, or codes together with the respected access technology in priority order (see TS 23.122 [31]).

Identifier: '6F62'		Structure: Transparent		Optional	
SFI: '13'					
File size: 5n (n ≥ 1) bytes			Update activity: low		
Access Conditions:					
READ		PIN			
UPDATE		ADM			
DEACTIVATE		ADM			
ACTIVATE		ADM			
Bytes	Description			M/O	Length
1 to 3	1 st PLMN (highest priority)			M	3 bytes
4 to 5	1 st PLMN Access Technology Identifier			M	2 bytes
6 to 8	2 nd PLMN			O	3 bytes
9 to 10	2 nd PLMN Access Technology Identifier			O	2 bytes
:	:				
(5n-4) to (5n-2)	n th PLMN (lowest priority)			O	3 bytes
(5n-1) to 5n	n th PLMN Access Technology Identifier			O	2 bytes

- PLMN Contents:
Mobile Country Code (MCC) followed by the Mobile Network Code (MNC).

Coding:
according to TS 24.008 [47].

- Access Technology:
Contents: The Access Technology of the HPLMN that the ME will assume when searching for the HPLMN, in priority order. The first Access Technology in the list has the highest priority.

Coding:

- See EF_{PLMNwACT} for coding.

4.2.58 EF_{PNN} (PLMN Network Name)

This EF contains the full and short form versions of the network name for the registered PLMN. The ME shall use these versions in place of its own versions of the network name for the PLMN (stored in the ME's memory list), and also in place of the versions of the network name received when registered to the PLMN, as defined by TS 24.008 [9].

The first record in this EF is used for the default network name when registered to the HPLMN. Subsequent records are to be used for other network names.

Identifier: '6FC5'		Structure: linear fixed		Optional
SFI: '19'				
Record length: X bytes, $X \geq 3$			Update activity: low	
Access Conditions:				
READ		ALWAYS		
UPDATE		ADM		
ACTIVATE		ADM		
DEACTIVATE		ADM		
Bytes	Description	M/O	Length	
1 to X	Network name TLV objects	M	X bytes	

- Network name TLV objects.
The content and coding (Full name for network and Short name for network) is defined below, where the fields within the objects are defined in TS 24.008[9]:

Coding of the Network name TLV objects

Length	Description	Status
1 byte	Full name for network IEI (This shall be the same as that used in the MM information message).	M
1 byte	Length of Full name for network Name contents	M
Y bytes	Full name for network contents (Octets 3 to n of network name information element)	M
1 byte	Short name for network IEI (This shall be the same as that used in the MM information message).	O
1 byte	Length of Short name for network	C1
Z bytes	Short name for network contents (Octets 3 to n of network name information element)	C1
C1: this field shall be present if the short name for network IEI is present		

Unused bytes shall be set to 'FF'.

CR-Form-v7

CHANGE REQUEST

⌘ **31.102 CR 128** ⌘ rev **-** ⌘ Current version: **5.2.0** ⌘

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:	⌘ Essential corrections file size and record lengths in several EFs		
Source:	⌘ TSG T3		
Work item code:	⌘ TEI	Date:	⌘ 07/11/2002
Category:	⌘ A	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ The file size and record length bytes are incorrect in several EFs within the specification
Summary of change:	⌘ The description of file size of the file EF _{HPLMWA_{act}} and the record length in EF _{PNN} were changed to the correct length. Comments were added in the chapter "Contents of the Files".
Consequences if not approved:	⌘ Incorrect description of the file size and record length of several EFs within the specification

Clauses affected:	⌘ 4; 4.2.54; 4.2.58										
Other specs Affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 51.011 ; TS 11.11
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

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.

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.

4.2.54 EF_{HPLMNwAcT} (HPLMN selector with Access Technology)

The HPLMN Selector with access technology data field shall contain the HPLMN code, or codes together with the respected access technology in priority order (see TS 23.122 [31]).

Identifier: '6F62'		Structure: Transparent		Optional	
SFI: '13'					
File size: 5n (n ≥ 1) bytes			Update activity: low		
Access Conditions:					
READ		PIN			
UPDATE		ADM			
DEACTIVATE		ADM			
ACTIVATE		ADM			
Bytes	Description			M/O	Length
1 to 3	1 st PLMN (highest priority)			M	3 bytes
4 to 5	1 st PLMN Access Technology Identifier			M	2 bytes
6 to 8	2 nd PLMN			O	3 bytes
9 to 10	2 nd PLMN Access Technology Identifier			O	2 bytes
:	:				
(5n-4) to (5n-2)	n th PLMN (lowest priority)			O	3 bytes
(5n-1) to 5n	n th PLMN Access Technology Identifier			O	2 bytes

- PLMN Contents:
Mobile Country Code (MCC) followed by the Mobile Network Code (MNC).

Coding:
according to TS 24.008 [47].

- Access Technology:
Contents: The Access Technology of the HPLMN that the ME will assume when searching for the HPLMN, in priority order. The first Access Technology in the list has the highest priority.

Coding:
See EF_{PLMNwACT} for coding.

4.2.58 EF_{PNN} (PLMN Network Name)

This EF contains the full and short form versions of the network name for the registered PLMN. The ME shall use these versions in place of its own versions of the network name for the PLMN (stored in the ME's memory list), and also in place of the versions of the network name received when registered to the PLMN, as defined by TS 24.008 [9].

The first record in this EF is used for the default network name when registered to the HPLMN. Subsequent records are to be used for other network names.

Identifier: '6FC5'		Structure: linear fixed		Optional	
SFI: '19'					
Record length: X bytes, $X \geq 3$			Update activity: low		
Access Conditions:					
READ		ALWAYS			
UPDATE		ADM			
ACTIVATE		ADM			
DEACTIVATE		ADM			
Bytes	Description			M/O	Length
1 to X	Network name TLV objects			M	X bytes

- Network name TLV objects.
The content and coding (Full name for network and Short name for network) is defined below, where the fields within the objects are defined in TS 24.008[9]:

Coding of the Network name TLV objects

Length	Description	Status
1 byte	Full name for network IEI (This shall be the same as that used in the MM information message).	M
1 byte	Length of Full name for network Name contents	M
Y bytes	Full name for network contents (Octets 3 to n of network name information element)	M
1 byte	Short name for network IEI (This shall be the same as that used in the MM information message).	O
1 byte	Length of Short name for network	C1
Z bytes	Short name for network contents (Octets 3 to n of network name information element)	C1
C1: this field shall be present if the short name for network IEI is present		

Unused bytes shall be set to 'FF'.

CHANGE REQUEST

⌘ **31.102 CR 129** ⌘ rev **-** ⌘ Current version: **3.A.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:	⌘ Essential corrections file size and record lengths in several EFs		
Source:	⌘ TSG-T3		
Work item code:	⌘ TEI	Date:	⌘ 08/11/2002
Category:	⌘ A	Release:	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
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	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The file size and record length bytes are incorrect in several EFs within the specification
Summary of change:	⌘ Comments were added in the chapter "Contents of the Files".
Consequences if not approved:	⌘ Incorrect description of the file size and record length of several EFs within the specification

Clauses affected:	⌘ 4; 4.2.54										
Other specs Affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 51.011 ; TS 11.11
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

How to create CRs using this form:

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

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.

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

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File size: 5n (n ≥ 1)bytes		Update activity: low		
Access Conditions:				
READ		PIN		
UPDATE		ADM		
DEACTIVATE		ADM		
ACTIVATE		ADM		
Bytes	Description	M/O	Length	
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:	:			
(5n-4) to (5n-2)	n th PLMN (lowest priority)	O	3 bytes	
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- PLMN
Contents:
Mobile Country Code (MCC) followed by the Mobile Network Code (MNC).
- Coding:
according to TS 24.008 [47].

- Access Technology:
Contents: The Access Technology of the HPLMN that the ME will assume when searching for the HPLMN, in priority order. The first Access Technology in the list has the highest priority.

Coding:

- See EF_{PLMN_wACT} for coding.