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PROJECT 2
"3GPP2"

Remote APDU Structure for CDMA Card Application Toolkit (CCAT) Applications

Revision 1.0

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FOREWORD

(This foreword is not part of this Standard)

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This Standard was prepared by Technical Specification Group C of the Third Generation Partnership Project 2 (3GPP2). This document contains the requirements for implementing remote management for CDMA Card Application Toolkit (CCAT). It extends the Remote APDU structure for UICC based applications [4] to enable operation in cdma2000^{®1} environment. Other specifications are required to complete the air interface and the rest of the system. Some of these specifications are listed in the References section.

¹ cdma2000[®] is the trademark for the technical nomenclature for certain specifications and standards of the Organizational Partners (OPs) of 3GPP2. Geographically (and as of the date of publication), cdma2000[®] is a registered trademark of the Telecommunications Industry Association (TIA-USA) in the United States.

REFERENCES

The following standards contain provisions that, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based upon this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. ANSI and TIA maintain registers of currently valid national standards published by them.

- [1] C.S0023-C, Removable User Identity Module for Spread Spectrum Systems,
- [2] C.S0074-0, UICC-Terminal interface Physical and Logical characteristics for cdma2000 Spread Spectrum Systems,
- [3] C.S0065-0, cdma2000 Application on UICC for Spread Spectrum Systems,.
- [4] ETSI TS 102 226 Release 6, "Smart Cards; Remote APDU structure for UICC based applications".
- [5] ISO/IEC 7816-4, "Information technology - Identification cards - Integrated circuit cards, Part 4: Organization, security and commands for interchange".
- [6] C.S0069-0, ISIM Application on UICC for cdma2000 Spread Spectrum Systems,
- [7] ETSI TS 102 225 Release 6, "Smart Cards; Secured packet structure for UICC based applications".

1 No text.

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2 **1 GENERAL**

3 **1.1 Introduction**

4 The present document specifies the bearer specific part of Remote APDU (Application
5 Protocol Data Unit) structure. The generic part is specified in ETSI TS 102 226 [4].

6 **1.2 Definitions and Abbreviations**

7 For the purposes of the present document, the definitions and abbreviations given in TS 102
8 226 [4] and the following apply:

9 **R-UIM.** A Removable User Identity Module residing on a non-UICC based platform as
10 specified in [1].

11 **CSIM.** cdma2000 Subscriber Identify Module specified in [3] . A cdma2000 Application
12 residing on the UICC, an IC card as specified in C.S0074-0 [2].

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2 **2 SCOPE**

3 The present document defines the remote management of files and applets on the R-UIM /
4 CSIM/ISIM.

5 It describes the APDU format for remote management.

6 Furthermore the document specifies:

7 - a set of commands coded according to this APDU structure and used in the remote file
8 management on the R-UIM/CSIM specified in [1], [2], [3], [6].

9 - a set of commands coded according to this APDU structure and used in the remote
10 applet management on the R-UIM/CSIM. This is based on [4].

11 The remote APDU structure for R-UIM/CSIM/ISIM applications shall comply with the one
12 defined in [4]. The present document only contains additional requirements or explicit
13 limitations for R-UIM/CSIM/ISIM applications.

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3 REMOTE APDU FORMAT

3.1 Remote Command Coding

The R-UIM/CSIM/ISIM Remote command coding shall comply with the Remote command coding of TS 102 226 [4].

3.2 Response Coding

The R-UIM/CSIM/ISIM Response coding shall comply with the Response coding of [4], added features are defined below.

3.2.1 R-UIM/CSIM Specific Behavior for Response Packets (Using SMS-PP)

If PoR is not requested, no data shall be returned by the R-UIM's/CSIM's RE/RA and the R-UIM's/CSIM's RE/RA shall indicate to the ME to issue an *SMS User Acknowledgment*.

If PoR is requested, data shall be returned by the R-UIM's/CSIM's RE/RA. The R-UIM's/CSIM's RE/RA shall indicate to the ME to issue an *SMS User Acknowledgment*.

The data returned by the R-UIM/CSIM is the complete Response Packet to be included in the User Data part of the *SMS User Acknowledgement*.

Because the R-UIM/CSIM is unable to indicate to the ME that the HEADER_IND bit is to be set, the Sending Entity receiving the Response Packet shall expect the UDH structure in any event.

If PoR is required by the sending entity, then the Additional Response Data sent by the Remote Management Application shall be formatted according to TS 102 226 [4].

4 REMOTE FILE MANAGEMENT (RFM)

4.1 R-UIM Remote File Management

Command and Response formats are defined in TS 102 226 [4]. Nevertheless, the list of commands defined in TS 102 226 [4] for Remote File Management does not apply for R-UIM. All the R-UIM Remote File Management commands are defined below.

The standardized commands are listed in Table 4.1-1. The commands are as defined in C.S0023-C [1], except that the SELECT command is extended from the one in C.S0023-C [1] to include "SELECT by path" as defined in ISO/IEC 7816-4 [5].

Table 4.1-1: R-UIM Remote File Management Commands

Operational command
SELECT
UPDATE BINARY
UPDATE RECORD
SEEK
INCREASE
VERIFY CHV
CHANGE CHV
DISABLE CHV
ENABLE CHV
UNBLOCK CHV
INVALIDATE
REHABILITATE
READ BINARY
READ RECORD

To retrieve the Response parameters/data of a Case 4 command, the GET RESPONSE command defined in C.S0023-C [1] shall be issued (Class byte is 'A0').

The GET RESPONSE and any Case 2 command (i.e. READ BINARY, READ RECORD) shall only occur once in a command string and, if present, shall be the last command in the string. The Response Data shall be placed in the Additional Response Data element of the Response Packet.

4.2 CSIM Remote File Management

CSIM Remote File Management shall comply with TS 102 226 [4].

The standardised commands are listed in TS 102 226 [4].

4.3 UICC Shared File System Remote File Management

UICC Shared File System Remote File Management shall comply with TS 102 226 [4].

1 The standardized commands are listed in TS 102 226 [4].

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3 **4.4 ISIM Remote File Management**

4 ISIM Remote File Management shall comply with TS 102 226 [4].

5 The standardized commands are listed in TS 102 226 [4].

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5 REMOTE APPLLET MANAGEMENT (RAM)

5.1 R-UIM Remote File Management

R-UIM/CSIM Remote Applet Management shall comply with TS 102 226 [4], added features are defined below.

5.2 R-UIM File System Access Domain Parameter

This parameter indicates the mechanism used to control the applet instance access to the R-UIM File System. It is a parameter of the INSTALL [for install] command described in TS 102 226 [4].

This parameter shall be used only if the "R-UIM File Access and Toolkit Application Specific Parameters" TLV object (Tag 'CA') is present.

Value	Name	Support	ADD length
'00'	See (Access Domain Parameter) TS 102 226 [4]	-	-
'01'	R-UIM access mechanism	Optional	2
'02' to 'FF'	See (Access Domain Parameter) TS 102 226 [4]	-	-

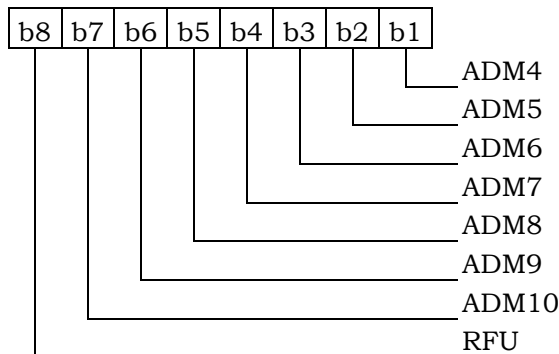
5.2.1 R-UIM Access Mechanism

This mechanism shall be used, if supported, by the framework if the Access Domain Parameter value is '01'. It shall use the Access Domain Data passed at applet instantiation to define the access conditions fulfilled while the toolkit applet is running.

The APDU Access Domain Data is a bit map combination of the file access condition levels described in C.S0023-C [1]. When the bit is set the associated Access Condition is granted.

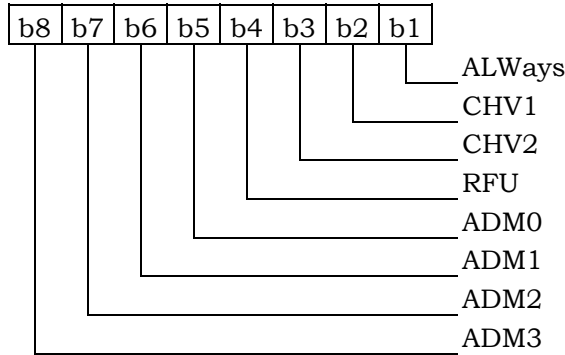
The APDU Access Domain Data is coded as follows:

Byte 1:



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2 Byte 2:



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4 EXAMPLE: Possible combinations of fulfilled Access Conditions are shown below:

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ADD value	Applet access condition fulfilled
'00 00'	No access
'00 01'	ALWays
'00 02'	CHV1
'00 03'	ALWays and CHV1
'00 04'	CHV2
'00 05'	ALWays and CHV2
'00 06'	CHV1 and CHV2
:	:
'00 10'	ADM0
:	:
'00 20'	ADM1
:	:
'00 22'	ADM1 and CHV1
:	:
'01 00'	ADM4
:	:
'40 00'	ADM10
:	:
'41 37'	ADM10 and ADM4 and ADM1 and ADM0 and CHV2 and CHV1 and ALWays
:	:

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8 **6 ADDITIONAL COMMAND FOR PUSH**

9 The PUSH command behavior shall comply with TS 102 226 [4]. The specific behavior of
 10 CCAT applications is stated below.

1 **6.1 CSIM Specific Behavior for Responses Using SMS-PP**

2 The behavior for responses shall comply with TS 102 226 [4].

3 As the processing of the PUSH command may result in proactive commands being issued,
4 the PUSH command result may be sent back in the Additional Response Data of a response
5 packet using *SMS Submit*.

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