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3GPP

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

http://www.3gpp.org

3GPP

Contents

Foreword

This Technical Report has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

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        1 presented to TSG for information;

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    y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

    z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

This document describes the different cases of interactions between 2G API and 3G API.

1 Scope

The present document describes :

- The behaviour and limitations of the TS 43.019 [1] APIs used in 3G environment.

- Description of TS 43.019 [1] APIs and TS 102 241 [2] APIs interworking.

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 43.019: "Subscriber Identity Module Application Programming Interface (SIM API); SIM API for Java Card™; Stage 2".

[2]   ETSI TS 102 241 : "Java Card™ API for the UICC"

[3]   3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment Interface"

[4]   3GPP TS 31.102: " Characteristics of the USIM Application "

[5]   3GPP TR 31.900: "SIM/USIM Internal and External Interworking Aspects "

[6]   3GPP TS 31.111: "USIM Application Toolkit (USAT) "

[7]   3GPP TS 31.130: "(U)SIM API for Java Card™"

[8]   ETSI TS 102 221: "Smart Cards; UICC-Terminal interface; Physical and logical characteristics".

[9]   3GPP TS 11.14: "Specification of the SIM Application Toolkit for the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

3 Definitions

For the purpose of the present document, the terms and definitions given in TS 43.019 [1], TS 102 241 [2] and the following apply.

2G applet: applet based on TS 43.019 [1].

3G applet: applet based on TS 102 241 [2] and TS 31.130 [7].

2G API: API defined in TS 43.019 [1].

3G API: API defined in TS 102 241 [2] and TS 31.130 [7].

4 The 2G API-3G API interworking

This chapter is dedicated to the interworking of the 2G API and 3G API and do not consider at all the current NAA nor the current network.

It is strongly recommended that all the new applets are developed with only the 3G API. Thus, an applet loaded onto the card should use either 2G API or 3G API.

4.1 Terminal Profile

The MEProfile data and Terminal Profile data are filled upon reception of a Terminal Profile command defined in TS 31.102 [4], TS 51.011 [3], TS 102 221 [8].

There is no issue regarding the different coding of profile data as the TS 31.111 [6] definition is fully backward compatible.

A 3G applet has to take care of the bit verified in the Terminal Profile data because when inserted in a 2G terminal, some bits have more specific description in TS 11.14 [9] than in TS 31.111 [6]. For example, the bit 4 of the 8th byte is *'Binary choice in GET INKEY'* in TS 11.14 [9] and *'Bit = 1 if GET INKEY is supported'* in TS 31.111 [6]. Thus, for some specific features it is recommended to test the bits as defined in TS 11.14 [9].

4.2 Registration and resource allocation

The ME resources and the card resources shall be shared between applets regardless the used API.

Examples :

- If an applet is registered to Call Control with 3G API, an applet using 2G API can not register to Call Control.

- A timer allocated with 2G API can not be allocated by 3G API.

- A menu entry identifier allocated by 3G API can not be allocated by 2G API.

4.3 Triggering

No interworking issue found at the moment.

The 2G applets are triggered on their 2G *sim.toolkit.ToolkitInterface* and the 3G applets on their 3G *uicc.toolkit.ToolkitInterface* as defined in the corresponding specifications.

4.4 System handlers availability

The system handlers availability for 2G applets is as defined in TS 43.019 [1] e.g. the ProactiveHandler may not be available if a proactive command is pending.

The system handlers availability for 3G applets is as defined in TS 31.130 [7] e.g. the ProactiveHandler may not be available if a proactive command is pending.

As a consequence of the EnvelopeResponseHandler availability rules, the EnvelopeResponseHandler is available for all triggered 2G or 3G applets, until an applet has posted an envelope response or sent a proactive command using 2G or 3G API.

Editor Note : Should we here extend the chapter for the handler content that shall be identical between 2G and 3G API or is it obvious?

5 The behaviour and limitations of 2G APIs used in 3G mode

This chapter is dedicated to the behaviour of existing 2G applets used in 3G mode i.e. with USIM as current NAA or connected to a 3G network.

5.1 Toolkit commands

Due to backward compatibility of TS 31.111 [6], there is no issue on proactive command issued by a 2G applet.

On 3G network, the Cell Broadcast is not yet defined, thus if connected on a 3G network this type of service would not be available.

5.2 File system access

To be able to access the File System with the 2G API, 2G access conditions shall be available on the card.

The access to the file system is the one defined in TS 43.019 [1] e.g. :

    - only the access to the GSM file system is possible,

    - at the invocation of the *processToolkit* method, the current file is the MF,

    - the format of the File Control Information is the one defined in TS 51.011 [3].

The issue of accessing files that do not have the same functionality for SIM and USIM (ADN/Phone Book, …) can be solved by implementing the recommended mapping of the files defined in TR 31.900 [5] and is not to be taken into account at the API level.

After selection of a cyclic file (for either operation), the record pointer shall address the record updated or increased last as defined in TS 51.011 [3].

When accessing a file with the 2G API, the access conditions as defined in TS 51.011 [3] shall be used.

5.3 Framework behaviour

The order of triggering the 2G and 3G applets shall follow the priority level of each applet defined at its loading. If several applets have the same priority level, the last loaded applet takes precedence.

The system proactive commands contain the information of all the 2G and 3G applets on the card. For example, if a 3G applet registered to event EVENT_DOWNLOAD_ACCESS_TECHNOLOGY_CHANGED, the set up event list system proactive command treats this event like the others.

If the post method is invoked with parameter '9F'/'9E' and the current NAA is the USIM, the framework should return '61'/'62'. If not, the SMS-PP RP-ACK/RP-ERROR feature will not be available.

5.4 Other points

A 2G applet is triggered whatever the current NAA and network are e.g. the reception of a 3G Menu Selection can trigger a 2G applet.

New feature introduced in 3G are not available for 2G applets e.g. EVENT_DOWNLOAD_DISPLAY_PARAMETER_CHANGE.

6 The behaviour and limitations of 3G APIs used in 2G mode

No problem as the 3G API are designed for this.

Annex A:
Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
08-04-03					First draft		0.1.0
09-04-03					T3 API # 17		0.2.0
13-05-03					Presentation to T3#27 for information		0.3.0
06-05-03	T-20	TP-030128			Presentation to T#20 for information		1.0.0