TSGS#22(03) 0689

Source: **SA1**

Title: **CRs to 22.140 and 22.038 on MMS and UICC interaction with MMS clients (Rel-6)**

Document for: **Approval**

Agenda Item: **7.1.3**

Meet	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	Doc. SA1
SP-22	SP-030689	22.038	016	-	Rel-6	B	MMS as an additional data exchange capability for USAT	6.1.0	6.2.0	S1-031330
SP-22	SP-030689	22.140	039	-	Rel-6	B	MMS targetting UE elements	6.3.0	6.4.0	S1-031240
SP-22	SP-030689	22.140	040	-	Rel-6	B	UICC interaction with MMS clients	6.3.0	6.4.0	S1-031338

3GPP TSG-SA WG1 #22
Bangkok, Thailand, 27th–31st October 2003

Tdoc ⌘S1-031330
supersedes S1-031239

CR-Form-v7

CHANGE REQUEST

⌘ **22.038** **CR** **016** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*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:	⌘	MMS as an additional data exchange capability for USAT
Source:	⌘	SA1 (Giesecke & Devrient)
Work item code:	⌘	MMS-R6
Date:	⌘	30/10/2003
Category:	⌘	**B**
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:	⌘	Operators can benefit from using USAT to send and receive MMs and/or elements of it. Existing MMS network infrastructure could be re-used in order to provide a robust, widely available, high bandwidth data transfer capability from and to USAT.
Summary of change:	⌘	Remove the term “bearer” where not applicable and replace it with the term “data exchange capability”; introduction of MMS as a new data exchange capability for USAT. Removal of implementation dependent statements. Minor editorial corrections.
Consequences if not approved:	⌘	

Clauses affected:	⌘	3.1, 6.2, 6.3, 8.1, 8.2, 9, 9.1

Other specs affected: ⌘	Y	N		⌘	
	X		Other core specifications	⌘	31.111
		X	Test specifications		
		X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:
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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.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this TS the following definitions apply:

applet: a small program that is intended not to be run on its own, but rather to be embedded inside another application

application: USAT information in the form of software, applications, associated resources (e.g. libraries) and/or data

bearer independent protocol: Mechanism at the interface between the USIM and the ME which provide access to the data bearers supported by the ME.

buffer: A dedicated memory used to temporarily store data to be sent and/or retrieved.

content: data and/or information associated with, or independent of, a particular application which may be presented to or collected from a user

data channel: allow the USIM and the network to exchange data using a selected data exchange capability~~bearer~~

link: radio resource

USAT service: a service enhanced (or made possible) by USAT technology

USAT execution environment: the USAT execution environment provides the mechanisms to operate single or multiple USAT-applications

USAT serving environment: an entity which delivers USAT services to the subscriber. This is normally the PLMN operator, but could be an entity with USAT responsibility (which may have been delegated by the PLMN operator)

USAT subscriber: the owner of a PLMN subscription who has entered into an agreement with a USAT serving environment for USAT services. Access to USAT services though other types of networks is out of scope of this specification

USAT server: a node supporting USAT services in the USAT service environment

user: the user of a USAT UE , who may or may not be the subscriber

(U)SIM: SIM and/or USIM.

[...]

6.2 USAT proactive capability

The USAT proactive capability is a mechanism whereby the UICC can request specific actions to be taken by the ME by issuing "proactive commands" thus establishing and maintaining an interactive dialogue with the user and/or communicating with the network or an external device.

The ME shall inform the UICC of the success or otherwise of each command issued to it by the UICC, and also indicate the command details and if applicable add more specific information.

The proactive command set allows the USAT to instruct the ME to:

1 display text supplied by the USAT on the ME's display, with an indication of priority (normal or high), and a defined action (user activity or timeout) to terminate the text display.

2 display a text string and obtain the response in the form of a single user keystroke or a string of keys entered by the user and pass the response to the UICC. If the response is designated as private by the UICC the ME shall not display the users response on the screen.

3 set up a voice call to an address with a specific priority as indicated by the UICC with all parameters indicated by the UICC.

4 set up a data call to an address with specific bearer capability and priority, all parameters are indicated by the UICC.

5 set up and manage a data channel (using ~~a~~ CSD, GPRS, SMS, MMS or USSD ~~bearer~~) between the SIM and an address using information provided by the UICC.

6 send data through a previously set up data channel. The UICC informs the ME if the data is to be sent immediately.

7 retrieve data from the ME that has previously been received via a data channel set up using (5) above. The UICC informs the ME as to how much data it expects to retrieve.

8 send a short message to the network. The short message text is supplied by the UICC to the ME in either packed or unpacked SMS 7-bit alphabet, or UCS2 alphabet.

9 send a SS control, SS MMI string or USSD string, indicating which alphabet is used where applicable.

10 play a tone in the appropriate audio device.

11 negotiate, within reasonable tolerances, a periodic "polling" of the USIM Toolkit.

12 refresh the image (if applicable) of the USIM data contained in the ME memory, either entirely, or partially, or instruct the ME to re-initialize completely.

13 set up an event list in the ME such that the UICC is informed by the ME when a indicated event has occurred.

14 set up an additional menu in the ME, by issuing the ME with a menu list, and allow indication back to the UICC of the user selected menu item.

15 provide requested information from the ME to the UICC, for example the MCC, MNC and IMEI.

16 communicate bi-directionally with an auxiliary device, e.g. a second card reader.

17 set up, refresh and interrogate several timers, and inform the UICC when these expire, within reasonable tolerances.

18 display additional MMI information such as display information or tones with commands that employ network resources, with an indication to the ME as to the required level of ME generated MMI as a result of the interaction with the network.

19 allow the ME to display help information with the commands, by providing the associated text, related to the user action (e.g. menu selection).

20 Provide indication from the ME to the USAT when a key on the MMI has been pressed in a "menu" (response to prompt) or and event (independent action) methods, with key identification. This indication shall be done in a secure manner.

21 send a MM to the network, using a data channel as (5) above. The MM content is supplied by the ME or the UICC.

Unless otherwise stated the following shall apply:

- The format of text to be displayed is designated by the UICC and is either SMS default alphabet (packed or unpacked) or UCS2 alphabet.

- The format of the response from the ME is designated by the UICC and is either keypad digit (0-9, *, #, +), SMS default alphabet characters or UCS2 alphabet characters.

6.3 ME Capability for support of bearer independent protocol

The ME supporting bearer independent protocol shall provide to the SIM a common interface for any type of data bearer. This interface is in addition to dedicated commands (e.g. SMS, SS and USSD) for SAT application to exchange data with entities outside the UICC~~the network~~.

The communication is initiated by the UICC. The ME negotiates with the UICC and the entity addressed~~network~~ to establish the optimum channel considering the UICC request, the network and ME capabilities.

The ME is responsible for maintaining and restoring the link should there be a link error.

[...]

8 Network interface requirements

8.1 USAT/Network interaction

USAT/Network interaction is required such that the USAT and the network can bi-directionally exchange data through the ME, employing any of the transport mechanisms defined in the section "USAT data exchange capabilities~~bearer~~ requirements".

8.2 Communication control capability

The communication control capability is a mechanism whereby the use of communication resources is either initiated by the USAT application or modified by the USAT application subsequent to a user action. If supported by the ME, the ME shall, at the time of the user initiated communication request, inform the UICC of the current cell location identity. The UICC shall indicate to the ME if the presentation of information (display, tones etc.) shall be restricted to the explicit presentation of USAT supplied information or if it is required to present standard PLMN information (e.g. network responses) in addition to the USAT supplied information.

It shall be possible for the UICC:

- to initiate and terminate a (UICC initiated) communication request with or without explicit confirmation by the user
- to allow, bar or modify a communication request initiated by the user
- to replace a user initiated communication request by another communication request (e.g. replace call request by an SS action etc.).

It shall be possible for the SAT/USAT serving environment to enable/disable the communication control capability. As an option, dependant on the subscribers subscription and the application, the user may enable/disable the communication control capability via a SAT/USAT serving environment and/or under the control of the Network Operator. The user shall be notified by the ME in case network service is lost as the result of disabling the communication control capability.

The communication control capability applies to all mobile originated requests independent of the applicable ~~bearer service~~data exchange capability. Explicitly it applies to voice calls and to all services listed in the section "~~SAT/~~USAT data exchange capabilities~~bearer~~ requirements" (e.g. SMS, supplementary service, circuit switched connection etc.).

[...]

9 USAT data exchange capabilities~~bearer~~ requirements

9.1 Data exchange capabilities~~Bearers~~ supported

USAT shall support the transmission (mobile originated) and the reception (mobile terminated) of data by means of one of the following data exchange capabilities~~bearers~~, either using dedicated commands or managed by the ME (using the Bearer independent protocol) ;

Data exchange capability~~BEARER~~	**~~Dedicated commands~~**	**~~Bearer independent protocol~~**
SMS	~~Yes~~	~~No~~
CSD	~~No~~	~~Yes~~
GPRS	~~No~~	~~Yes~~
SS (MO only)	~~Yes (MO only)~~	~~No~~
USSD (MO only)	~~Yes (MO only)~~	~~No~~
Cell Broadcast (MT only) (only when the ME is connected to a GSM access network)	~~Yes (MT only)~~	~~No~~
SMS via GPRS	~~Yes~~	~~No~~
Local Bearer (Bluetooth, IrDA, RS232, USB)	~~No~~	~~Yes~~
MMS protocols		

CR-Form-v7

CHANGE REQUEST

⌘ **22.140** **CR** **039** ⌘ **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:	⌘	MMS targetting UE elements
Source:	⌘	SA1 (T-Mobile)
Work item code:	⌘	MMS ***Date:*** ⌘ 10/10/2003
Category:	⌘	**B** ***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)*
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R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Similarly to SMS this new requirement introduces the possibility to send a MM to the UE which is not intended for the presentation to the user. A possible use case for this functionality is to play a game requiring interaction between the users (e.g. chess game). It would also be possible to use this functionality to download MM elements on the UE such as MM templates. It is also required that the payload of the MM can be protected from modification and in some cases also from deletion.
Summary of change:	⌘	A new requirement has been added to describe a new functionality of MMS that allows a MM to be directed towards a specific application residing on the UE. This MM will be protected from modification by the MMS. Network MMs not intended for presentation can be also protected from accidental deletion.
Consequences if not approved:	⌘	Sub-utilisation of MMS capabilities as bearer to transport information between UEs and between Network and UE.

Clauses affected:	⌘	5.2

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

Other comments: ⌘	

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5.2 Multimedia message delivery and submission

- **Submission mechanism**

  The MMS shall support multimedia messages or messages elements to be submitted from the sender's terminal.

- **Push Mechanism**

  The MMS shall be able to support a request for multimedia messages or messages elements to be automatically delivered to the recipient's terminal.

- **Pull Mechanism**

  The MMS shall be able to support a request for multimedia messages or messages elements to be delivered to the recipient's terminal on request by the recipient.

Note: Push and pull delivery mechanisms could be identical; the criteria which decide on the type of mechanism (push / pull) are either described in the User Services Profile or out of the scope of this specification.

- **Concurrency**

  The MMS shall be able to support MM delivery to and from the user's terminal not be restricted during other active services (subject to the capabilities of the terminal and the network).

- **Streaming**

  The MMS shall be able to support streaming for MM delivery from the MMS system to the terminal.

  Support for streaming for MM upload from the terminal to the MMS system will be considered for future releases.

- **Preferred Bearer**

  It shall be possible to define a list of precedence for bearers in the configuration information setsfor delivery and submission of MM (e.g. GPRS, CSD). By default, the the terminal shall be able to support automatic bearer selection (i.e. without user intervention) based on the order of precedence defined in the configuration information sets on the USIM[7] or SIM [8]. The user shall be able to enable or disable automatic bearer selection. When disabled, manual bearer selection shall be available from the list of bearers.

- **Conditional delivery mechanism**

  It shall be possible for the user to define in the User Profile a set of conditions that determine which delivery mechanism should be used for the delivery of a MM.

  Such conditions should include:

  - Roaming status of the recipient (e.g. inside or outside the home network)
  - Identity of the MM originator
  - Time of day (of the recipient's home network)
  - Upper limit to the MM size

  The notification message indicating an MMS awaiting delivery shall relay the information of the user's preferred delivery mechanism, if such information is made available by the user profile in the network, to the UE. If a mismatch is identified between the delivery mechanism configured in the UE and the delivery mechanism indicated in the notification message, it shall be possible for the user to select either the delivery mechanism configured in the UE or the delivery mechanism indicated in the notification message.

  Furthermore, the terminal may also display a warning prior to the download of a message depending on some terminal parameters such as:

  - Available storage capacity
  - Remaining battery life

- Available bearers

For example, the user may elect to have all MMs downloaded automatically when in the home network, be able to manually select whether to download a MM or not when roaming.

It shall be possible for the network operator to program a default set of rules for the delivery mechanism in the User profile. Such rules can be overridden by the user.

Note: The way the user profile is accessed and modified is not subject of standardisation.

- **MM not intended for presentation**

The MMS shall support MMs that are not intended for presentation but used to originate and deliver information to applications residing on the UE.

When an application sends a MM not intended for presentation, it shall be possible to uniquely identify that originating application and the target application on the recipient UE as well as the instance of the application if more than one instance can be active. The originating application may reside on a UE or within the network.

The message payload shall not be modified by the MMS.

If the MM is originated by the subscriber's home environment, it shall be possible to protect the MM from accidental deletion by the user.

5.2.1 MM delivery to and submission from a VASP

- **VASP submission mechanism**

The MMS shall support multimedia messages or messages elements to be submitted from a VASP.

- **VASP delivery mechanism**

The MMS shall be able to support multimedia messages or messages elements to be delivered to a VASP.

- **VASP mass distribution**

The MMS shall be able to support a request from a VASP for mass distribution of MMs to recipients.

- **Additional VASP data**

The MMS shall be able to convey additional data associated with an MM from a VASP to the MMS service provider and vice versa.

Note: A possible use case for this could be the option to sent additional charging information from the VASP to the MMS service provider. However the data itself is not specified for this release.

CR-Form-v7

CHANGE REQUEST

⌘ **22.140** **CR** 040 ⌘ **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:	⌘	UICC interaction with MMS clients
Source:	⌘	SA1 (Schlumberger, TIM)
Work item code:	⌘	MMS-R6
Date:	⌘	30/10/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

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Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘

Some operators are very aware they could benefit from using USIM to send and receive MM and/or elements of it.
Here are some uses cases where operators and end users alike could benefit from these new capacities:

1 Banking Application
A USIM-based MMS Management could give the possibility to create an application, which will manage large amount of multimedia data in a secure environment. In fact: 3-DES, RSA, PKI will give the same security as we have today with SMS Based applications.
Besides this, we could also display and manage:
· Diagrams
· Graphs
· Simulation of the ATM Display
· Multimedia Advertising

2 Location Based Services
A USIM-based MMS Management could give the possibility to create new Location Based Services; thanks to this kind of applications the user could receive and interact with the map of the researched place.

3 “Ready to send” cards
These are preformatted messages easy and fast to send, from a user library or an operator library (written during card personalization or downloaded).
The user just picks in a menu a pre-formatted MMS, which is directly sent to the given destination.

Summary of change:	⌘	Introduce the possibility for MMs or elements of messages to be sent or received by the UICC. 4 Application triggering On reception of an MMS, special applications can be triggered: · MMS management applications (MMS client). · Proprietary applications when receiving particular MMS. As an example, an Account Manager Application could be launched when receiving MMS from the user's bank.
Consequences if not approved:	⌘	

Clauses affected:	⌘	5.2 – 5.7 (new)				
		Y	**N**			
Other specs Affected:	⌘	**X**		Other core specifications	⌘	TS 31.102, TS 31.111
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘	This CR is the revision of CR38 presented at TSG SA#21				

5.2 Multimedia message delivery and submission

- **Submission mechanism**

  The MMS shall support multimedia messages or messages elements to be submitted from the sender's ~~terminal~~UE.

- **Push Mechanism**

  The MMS shall be able to support a request for multimedia messages or messages elements to be automatically delivered to the recipient's ~~terminal~~UE.

- **Pull Mechanism**

  The MMS shall be able to support a request for multimedia messages or messages elements to be delivered to the recipient's ~~terminal~~ UE on request by the recipient.

Note: Push and pull delivery mechanisms could be identical; the criteria which decide on the type of mechanism (push / pull) are either described in the User Services Profile or out of the scope of this specification.

[…]

5.6 Error Messages

- It shall be possible for the operator to configure the content of the error message delivered to the MMS client

5.7 MMS client interaction with UICC

- It shall be possible for an MMS client in the ME to interact with a UICC to send and receive MMS messages in accordance with the Requirements in this specification. The interaction with the UICC shall allow MMS management (e.g. delivery, submission) and the presentation of multimedia messages from the UICC to the user.

When a MM is sent from the home environment of the subscriber, means shall be provided to protect it from accidental deletion by the user.