CR-Form-v7

CHANGE REQUEST

⌘ **22.038** **CR** **016** ⌘**rev** **1** ⌘ 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:	⌘	Change of the term "bearer" to "data exchange capability" and removal of implementation dependent statements in TS 22.038.
Source:	⌘	SA
Work item code:	⌘	TEI
Date:	⌘	16/12/2003
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:	⌘	The term "bearer" in TS 22.038 caused a lot of confusion in the past. In order to avoid that confusion for the future, the term "bearer" has been replaced by a more appropriate term. The table in 9.1 implies the way how a feature should be implemented in T3 maintained specifications. This implication has is removed.
Summary of change:	⌘	Remove of the term “bearer” where not applicable and replace it with the term “data exchange capability”; removal of implementation dependent statements. Minor editorial corrections.
Consequences if not approved:	⌘	Misinterpretation of TS 22.038.

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

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

Other comments:	⌘	

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 or USSD ~~bearer~~) between the UICC~~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 addressed entity~~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 I~~i~~ndependent P~~p~~rotocol) ;

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~~