

Source: **TSG S1**
Title: **Collection of CRs for Support of SAT by USIM**
Document for: **Approval**
Agenda Item: **5.1.3**

S1-99847	22.030	001	R99	Indication to user in case of an error during Data Download (rev 715)
S1-99736	22.100	022	R99	Support of SAT by USIM
S1-99816	22.101	024	R99	Clarification on the usage on 2G SIM and 3G USIM
S1-99737	22.101	025	R99	Support of SAT by USIM

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

22.030 CR 001

Current Version: 3.0.0

3G specification number ↑

↑ CR number as allocated by 3G support team

For submission to TSG SA#5 for approval (only one box should be marked with an X)
list TSG meeting no. here ↑ for information

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects:
(at least one should be marked with an X)

USIM

ME

UTRAN

Core Network

Source: SA WG1

Date: 1.10.1999

Subject: Indication to user in case of an error during Data Download

3G Work item: 3TS/SA-0122030

Category:

- F Correction
- A Corresponds to a correction in a 2G specification
- B Addition of feature
- C Functional modification of feature
- D Editorial modification

(only one category shall be marked with an X)

Reason for change:

Data Download to the SIM is not related to a user action and therefore no indication should be given to the user (in that case, the ME sends an RP-ERROR to the network and the error treatment is dealt with by the originator of the Data Download).

Clauses affected: 4.6.5

Other specs affected:

- Other 3G core specifications → List of CRs:
- Other 2G core specifications → List of CRs:
- MS test specifications → List of CRs:
- BSS test specifications → List of CRs:
- O&M specifications → List of CRs:

Other comments:



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<----- double-click here for help and instructions on how to create a CR.

4.6.5 Status information - return codes

The SIM gives status information, as responses to instructions, in two-byte codes (see GSM 11.11 [21] clause "Status Conditions Returned by the Card"). Some of the possible return codes are deeply related to the user's actions and should therefore be indicated to her.

It is mandatory to give the user the appropriate indication (respectively) when the following codes appear:

code		description;
92 40	-	Memory Problem (eg. Update impossible);
98 04	-	Access conditions not fulfilled (eg. secret code verify rejected);
98 40	-	Unsuccessful CHV verification, no attempt left (eg. Secret code locked);
6F XX	-	Technical problem with no diagnostic given. <u>However, if this code is returned by the SIM in response to an ENVELOPE (SMS-PP DOWNLOAD) or ENVELOPE (CELL BROADCAST DOWNLOAD), then no indication shall be given to the user, since in this case the code is not related to a user action.</u>

The status information indication can be a dedicated lamp, text-string or others, as long as it is unambiguously made available to the user via the MMI.

As regards all other codes, it is left to the manufacturers' discretion whether and how the user shall be informed.

4.7 Presentation of IMEI

The following procedure shall instruct the ME to display its IMEI:

*#06#

The procedure shall be accepted and performed with and without an inserted SIM. The ME shall then display the 14 digits of the IMEI (not including the spare digit), the Check Digit and optionally the Software Version Number as defined in GSM 02.16 [6] (as a single string, in that order).

5 The basic public MMI

5.1 General

In order to improve the standardization of the MMI for GSM Mobile Stations intended for general use by the public to access voice services, the following additional specification is provided. Equipment which meets this specification may quote "Approved to 02.30-Section 5" in its specification.

This procedure is intended for Mobile Stations used by unfamiliar users, where instructions will be limited, for example in fleet cars, hire cars and payphones (cash, credit card, smart card, prepaid card, etc...).

The organization providing the facility may require "Approved to 02.30-Section 5" as part of its procurement specification.

The use of this clause 5 of the specification is not mandatory.

Use of "Approved to 02.30 section 5" is restricted to Mobile Stations which pass Type Approval testing in respect to this clause.

CHANGE REQUEST No :		022	<small>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</small>	
Technical Specification / Report UMTS		22.100	Version: 3.3.0	
Submitted to		for approval	<input checked="" type="checkbox"/>	without presentation ("non-strategic")
TSG_SA				<input type="checkbox"/>
<small>list TSG plenary meeting no. here ↑</small>		for information		with presentation ("strategic")
				<input checked="" type="checkbox"/>

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: USIM TE Network
(at least one should be marked with an X)

Work item: UMTS Phase 1 Release 99

Source: France Télécom, Lucent Technologies, Mannesmann Mobilfunk **Date:** September 8th, 1999

Subject: Support of SAT by USIM

Category: <small>(one category and one release only shall be marked with an X)</small>	F Correction	<input checked="" type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		UMTS 99	<input checked="" type="checkbox"/>

Reason for change: To clarify the support of SAT by USIM

Clauses affected: 2.1, 10

Other specs affected:	Other releases of same spec	<input type="checkbox"/>	→ List of CRs:	
	Other core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications / TBRs	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:




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3G TS 22.100 3.3.0 (1999-01)

Technical Specification

3rd Generation Partners 
**Technical Specification Group Services and System
Aspects**
UMTS phase 1 Release 99
(3G TS 22.100 version 3.3.0)

The present document has been developed within the 3rd Generation Partnership Project (3GPPTM) and may be further elaborated for the purposes of 3GPP.

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This Specification is provided for future development work within 3GPP only. The Organisational Partners accept no liability for any use of this Specification.

Specifications and reports for implementation of the 3GPPTM system should be obtained via the 3GPP Organisational Partners' Publications Offices.

Reference

DTS/TSGS-0122100U

Keywords

<keyword[, keyword]>

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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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

2.1 Normative references

This document is the starting point of the set of specifications that define the UMTS Service Requirements for UMTS Phase 1 Release 99. The UMTS Service requirements for Release 99 are defined in the following normative specifications. Since these specifications may also address some requirements for later Releases of UMTS phase 1, they explicitly state when a requirement does not apply to Release '99.

- | | |
|-----|---|
| [1] | 3G TS 22.101: "Universal Mobile Telecommunications System (UMTS): Service aspects; Service principles". |
| [2] | 3G TS 22.105: "Universal Mobile Telecommunications System (UMTS); Services and Service Capabilities". |
| [3] | 3G TS 22.115: "Universal Mobile Telecommunications System (UMTS); Service Aspects: Charging and Billing". |
| [4] | 3G TS 22.121: "Universal Mobile Telecommunications System (UMTS); VHE Stage 1". |
| [5] | 3G TS TS 22.129, Handover requirements between UMTS and GSM or other Radio System]". |
| [6] | 3G TS 21.133 : "Universal Mobile Telecommunications System (UMTS) ; Security threats and requirements" |
| [7] | GSM 03.45: "Technical realization of facsimile group 3 transparent" |
| [8] | GSM 03.46: "Technical realization of facsimile group 3 non-transparent" |
| [9] | <u>3G TS 22.038: "SIM application toolkit, stage 1"</u> |

These specifications may refer (directly or indirectly) to further specifications which provide detailed descriptions of service requirements incorporated in UMTS. In particular the service requirements of any GSM component of a UMTS system are specified by reference to GSM service requirements specifications.

10 USIM

In the first phase of UMTS, the USIM shall be developed on the basis of the phase 2+ release 99 GSM SIM including SAT as described in 3G TS 22.038 [9]. The additional requirements for the phase 1 UMTS USIM are as follows :

- 1) USIM shall provide new and enhanced security features (e.g. mutual authentication...) as defined by SMG10.

- 2) The UMTS mobile terminal shall support phase 2 and phase 2+ GSM SIMs as access modules to UMTS networks. The services that can be provided in this case may be limited to GSM like services provided by that UMTS network. UMTS mobile terminals shall not support 5V SIMs. It shall be up to the UMTS network operator to accept or reject the use of GSM SIM as access modules in its network.
- 3) It shall be possible to have multiple applications on the UMTS IC Card (UICC). There shall be a secured and easy mechanism for application selection. An authorised access for each application is mandatory, however it shall be possible to have shared directories between applications where appropriate. The UICC shall be capable of supporting SIM and USIM applications.
- 4) Simultaneous activation of several USIMs on one mobile terminal need not be supported in UMTS phase 1.
- 5) A standardised mechanism allowing highly secure transfer of applications and/or associated data to/from the UICC shall be supported in UMTS phase 1.

CHANGE REQUEST No :		024	<i>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</i>	
Technical Specification GSM / UMTS		22.101	Version:	3.6.0
Submitted to TSG		For approval	<input checked="" type="checkbox"/>	without presentation ("non-strategic")
<i>list SMG plenary meeting no. here ↑</i>		for information	<input type="checkbox"/>	with presentation ("strategic")
				<input checked="" type="checkbox"/>
				<input type="checkbox"/>

PT SMG CR cover form: cr28_1.zip

Proposed change affects: SIM ME Network
 (at least one should be marked with an X)

Work item: _____

Source: S1 **Date:** 29.09.99

Subject: Clarification on the usage on 2G SIM and 3G USIM

Category: <i>(one category and one release only shall be marked with an X)</i>	F Correction	<input type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input checked="" type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input checked="" type="checkbox"/>
			UMTS	<input checked="" type="checkbox"/>	

Reason for change: Clarification in figure 3, example of a multifunction UICC including a SIM-application to access 2G GSM systems.
 Correction of figure 4, roaming users, due to the directory structure of a 2G terminal can not address a USIM application on a UICC.
 Clarification on examples of UICC application.

Clauses affected: _____

Other specs affected:	Other releases of same spec	<input type="checkbox"/>	→ List of CRs:	_____
	Other core specifications	<input type="checkbox"/>	→ List of CRs:	_____
	MS test specifications / TBRs	<input type="checkbox"/>	→ List of CRs:	_____
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	_____
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	_____

Other comments: _____



<----- double-click here for help and instructions on how to create a CR.

11 UMTS IC Card, USIM and Terminal

This clause defines the functional characteristics and requirements of the User Service Identity Module (USIM) for use in UMTS. The USIM is an application residing on a UICC.

11.1 The USIM and User Profiles

11.1.1 The USIM

Every USIM shall have a unique identity and shall be associated with one and only one home environment.

It shall be possible for a home environment to uniquely identify a user by the USIM.

The USIM shall be used to provide security features.

For access to UMTS services, provided via a UMTS home environment, a valid USIM shall be required.

The USIM shall reside on a UICC, UMTS shall adopt both of the GSM SIM card physical formats. New UMTS terminals may require other formats also. USIM specific information shall be protected against unauthorised access or alteration.

It shall be possible to update USIM specific information via the air interface, in a secure manner.

11.1.2 User Profiles

It shall be possible for a user to be associated with one or a number of user profiles, which the user can select and activate on a per call basis. The user profile contains information which may be used to personalise services for the user.

It shall be possible for one or more user profiles associated with the same user to be active simultaneously so that the user may make or receive calls associated with different profiles simultaneously. Activation of profiles shall be done in a secure manner, for example with the use of a PIN.

For terminating calls the correct profile shall be indicated by the user address used (e.g. IMUN), each profile will have at least one unique user address associated with it. For originating calls the user shall be able to choose from the available profiles, the appropriate one for the call. A profile identity will need to be associated with the call for accounting and billing purposes. User profile identities need not be standardised but a standardised means is required for indicating that a particular profile is being used.

Simultaneous use of the same user profile on multiple terminals for the same type of service shall not be allowed.

User profiles associated with different home environments shall not share the same user address.

11.1.3 UICC usage in 2G Terminals

It shall be possible to use the UICC in 2G terminals to provide access to GSM networks. In order to achieve that option, it shall be possible to store a module containing 2G access functionalities on the UICC which shall be accessed via the standard GSM SIM-terminal interface.

11.1.4 ~~3~~ Multiple USIMs per UICC

The standard shall support ~~the simultaneous use of~~ more than one USIM per UICC even when those USIMs are associated with different home environments. Only one of the USIMs or the SIM shall be activate at a the given time. It shall be possible for the user to select the application on the UICC. ~~For UMTS Phase 1 the support of only one USIM per UICC is required.~~

The standard must not prevent the coexistence of USIM applications, each associated with different home environments on the same UICC, so long as the security problems which arise from such a coexistence are solved when UMTS terminals and UICC are produced. Nevertheless, in the short term, it is safer to assume that only USIMs associated to one home environment will be stored on one UICC.

11.2 The UICC

Physical aspects of the UICC shall be defined by an appropriate committee. However there is a requirement to support access to services via GSM and UMTS with a single UICC.

11.2.1 The UMTS UICC and Applications other than the USIM

It shall be possible for the UICC to host other applications in addition to the USIM, see figure 3. Service providers, subscribers or users may need to establish additional data or processes on the UICC. Each application on an UICC shall reside in its own domain (physical or logical). It shall be possible to manage each application on the card separately. The security and operation of an application in any domain shall not be compromised by an application running in a different domain. Applications may need to use their own security mechanisms which are separate to those specified for UMTS e.g. electronic commerce applications.

Examples of other UICC applications are: ~~USIM, a more practical implementation of GSM Phase 2+ SIM items~~, off-line user applications like UPT, electronic banking, credit service, etc.

Applications should be able to share some information such as a common address book.

It shall be possible to address applications which reside on the UICC, via the air interface.

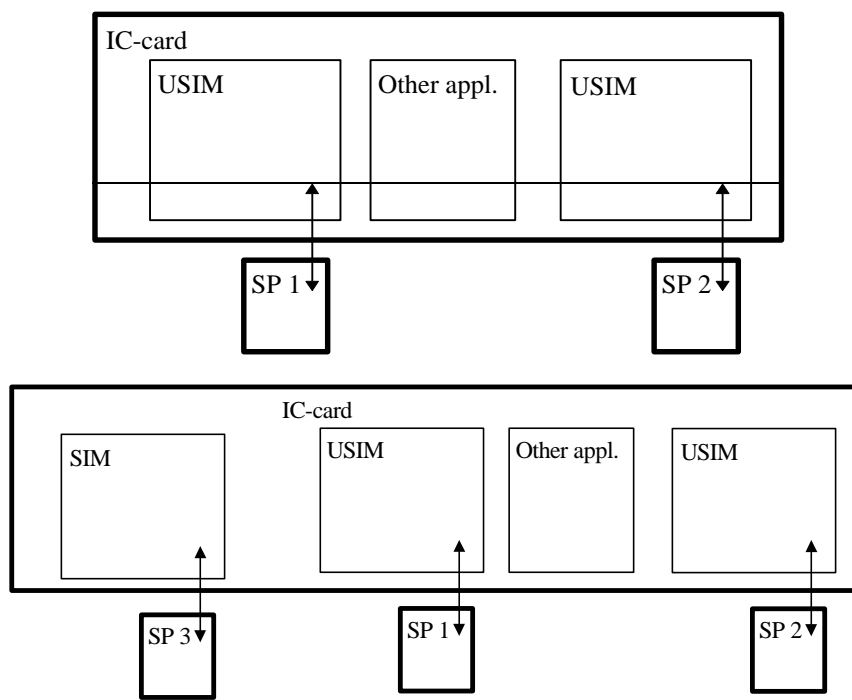


Figure 3 Example of a Multifunction UICC

11.3 Terminals and Multiple UICCs

~~The standard shall support the use of multiple UICC (e.g with applications like USIM, SIM and/or banking, credit card,...) multiple registration on a single terminal via insertion of multiple UICC, each with at least one unique USIM. In UMTS phase 1 the support of only one UICC is required. Only one UICC shall be active at a time to access a PLMN. In case the active UICC contains more than one USIM or SIM, the requirements of 11.1.4 shall~~

~~apply. One or more of the USIMs may be active at the same time so that the terminal may be used to engage in more than one simultaneous call, possibly associated with different home environments. In UMTS phase 1 the activation of only one USIM at a time is required.~~

~~The standard shall allow a user to obtain services simultaneously from different home environments through a single network. It is understood that it may not always be possible to access all home environments through a given network.~~

If the UICC with the active USIM or SIM is removed from the mobile terminal during a call (except for emergency calls), the call shall be terminated immediately.

13 Service environment

The success of UMTS may depend upon its deployment in many regions of the world. Different regions of the world are likely to have widely different market needs for wireless based telecommunications, ranging from low cost provision of POTS (to users whose mobility is to be limited) to the provision of high bit rate and multimedia services (to highly mobile users).

The following scenarios should therefore be considered:

- use of UMTS to primarily provide wideband services (up to 2Mbps).
- use of UMTS to provide primarily telephony.
- use of UMTS for narrow (up to 64kbps) and wideband services.
- use of multi standard terminals to provide integrated services.

14 Evolution

14.1 Support of pre UMTS services

The UMTS standard shall be capable of supporting pre UMTS services in a manner which is transparent to the users of these services.

UMTS shall provide some mechanisms which permit pre UMTS users to roam easily onto UMTS and access the services. See Figure 5 for clarification.

UMTS shall provide some mechanisms which permit UMTS users to roam easily onto pre-UMTS systems and access the services.

14.2 Provision and evolution of services within UMTS

UMTS may be introduced before a complete set of UMTS standards is available. As one of the identified priority areas, UMTS service related standards need to be available at an early stage. If a phased approach to the completion of standards is adapted then the same general service principals shall apply at an early stage.

UMTS networks shall be capable of providing a specified core set of capabilities. Responsibility for providing this core set of capabilities should lie with the serving network.

The core set of capabilities should permit UMTS home environment to offer a range of distinctive services including those which cannot be implemented on pre-UMTS systems.

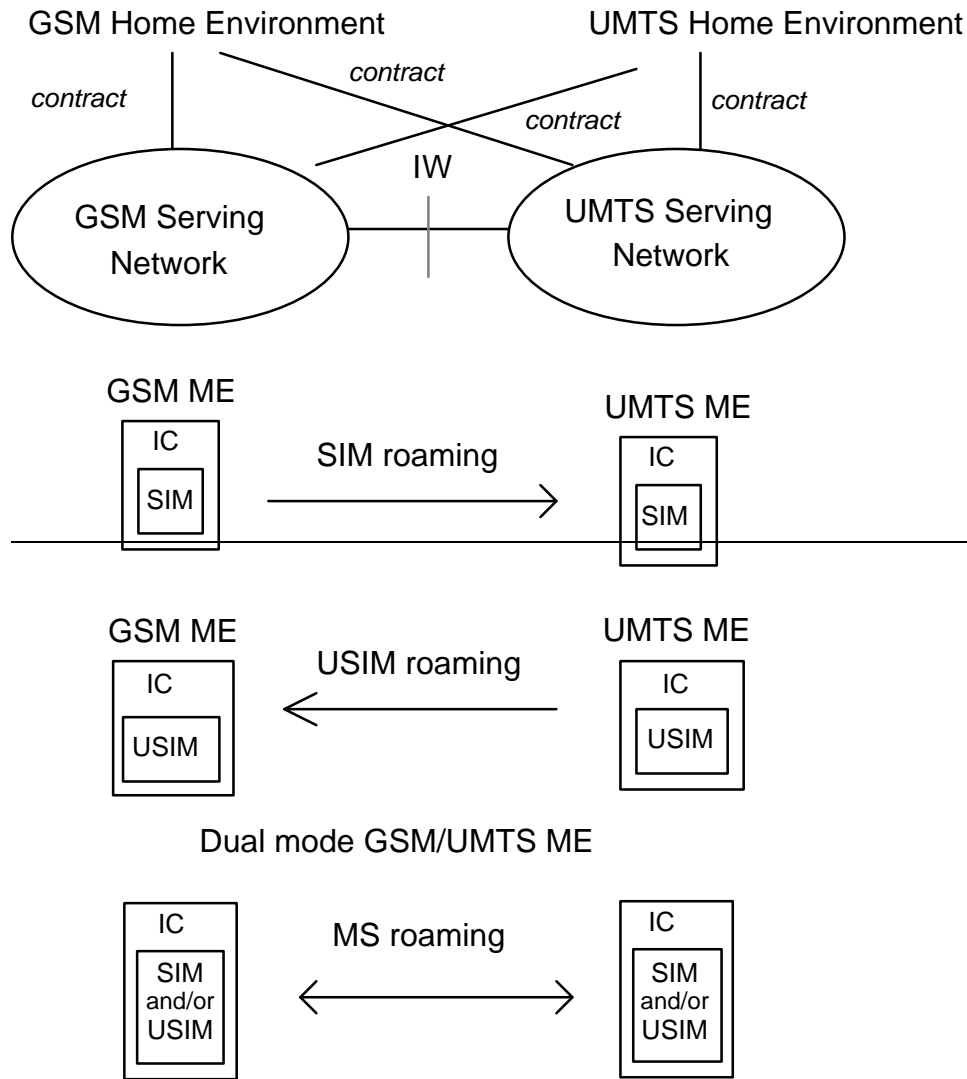
UMTS shall provide some mechanism which permits UMTS users to roam easily onto pre UMTS systems, with access to a minimum set of services.

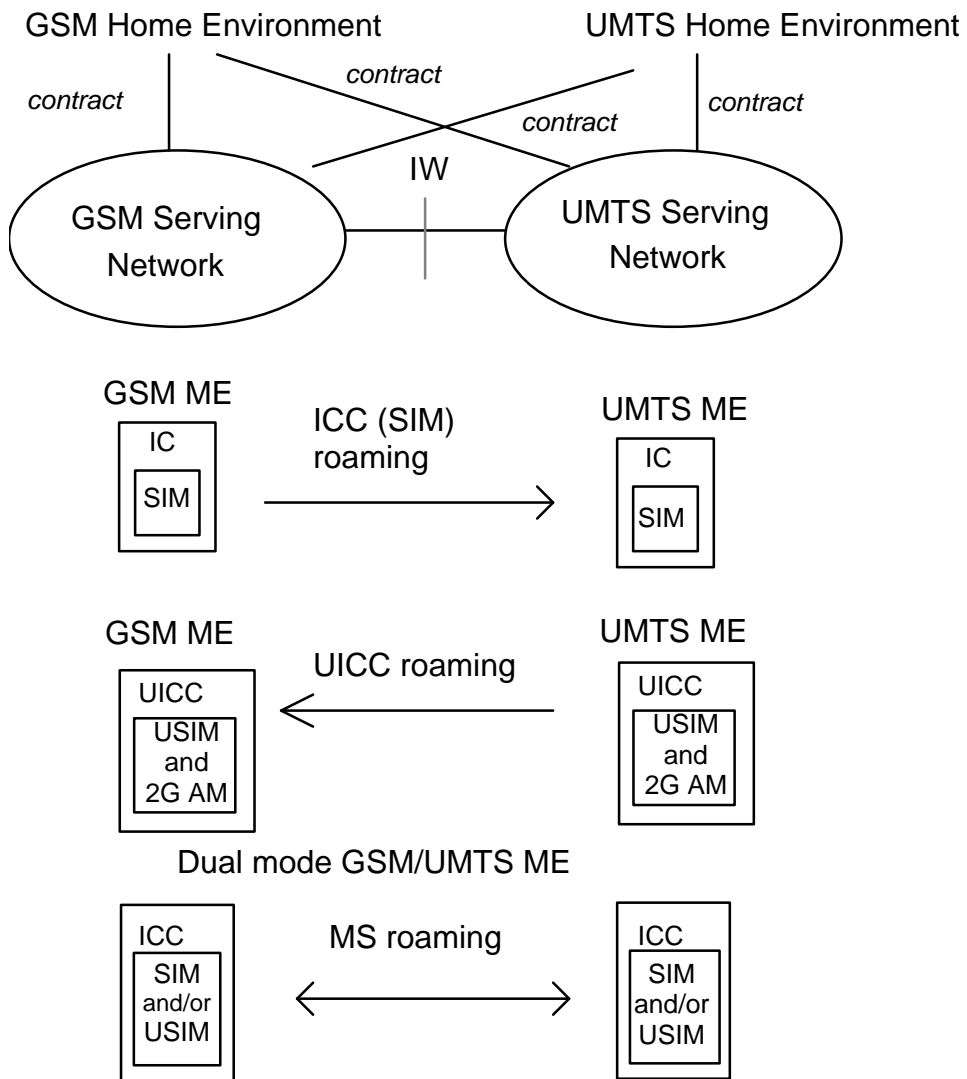
It shall be possible for the home environment to develop services with full roaming capability. It should not be necessary for users to subscribe to more than one home environment in order to receive a particular service. For example a

company may market an in car navigation/location system which uses UMTS as the core network. As far as users of the navigation service are concerned, that company is their home environment.

The radio interface should not unnecessarily restrict the development of new services (within physical limitations).

The standard shall provide a mechanism which allows a UMTS terminal to be easily upgraded so that it can access new services which are within the physical limitations of the terminal. Figure 4 shows as an example the support of roaming users between GSM and UMTS.





2G AM: 2G Access Module

Figure 4 Roaming Users

CHANGE REQUEST No :		025	<i>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</i>	
Technical Specification / Report UMTS		22.101	Version: 3.6.0	
Submitted to		for approval	<input checked="" type="checkbox"/>	without presentation ("non-strategic")
TSG_SA				<input type="checkbox"/>
<i>list TSG plenary meeting no. here ↑</i>		for information		with presentation ("strategic")
				<input checked="" type="checkbox"/>

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: USIM TE Network
(at least one should be marked with an X)

Work item: Service principles

Source: France Télécom, Lucent Technologies, Mannesmann Mobilfunk **Date:** September 8th, 1999

Subject: Support of SAT by USIM

Category: <i>(one category and one release only shall be marked with an X)</i>	F Correction	<input type="checkbox"/>	Release:	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input checked="" type="checkbox"/>		Release 97	<input type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		UMTS 99	<input checked="" type="checkbox"/>

Reason for change: To clarify the support of SAT by USIM

Clauses affected: 2, 11.1.1

Other specs affected:	Other releases of same spec	<input type="checkbox"/>	→ List of CRs:	
	Other core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications / TBRs	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

Other comments:



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3G TS 22.101 3.6.0 (1999-06)

Technical Specification

3rd Generation Partners 
Technical Specification Group Services and Systems
Aspects
Service aspects;
Service principles
(3G TS 22.101 version 3.6.0)

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Reference

DTS/TSGS-0122101 U

Keywords

<keyword[, keyword]>

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2 References

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- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

2.1 Normative References

- [1] UMTS 22.25 "Universal Mobile Telecommunications System (UMTS): Quality of Service and Network Performance"
- [2] UMTS 22.05 "Universal Mobile Telecommunications System (UMTS): Service Capabilities"
- [3] UMTS 22.XX: "Universal Mobile Telecommunications System (UMTS): Virtual Home Environment (VHE), Stage 1"
- [4] UMTS 22.038: "SIM application toolkit, stage 1"

2.2 Informative references

- [1] ITU-T Draft Recommendation F.700: "Framework Recommendation for audio-visual/multimedia services";
- [2] ITU-T Draft Recommendation F.SFEA: "Service Features and Operational Provisions in IMT-2000".
- [3] GSM 02.01: "Digital cellular telecommunications system (Phase 2+); Principles of telecommunication services supported by a GSM Public Land Mobile Network (PLMN)".
- [4] GSM 02.04: "Digital cellular telecommunications system (Phase 2+); General on supplementary services"
- [5] GSM 02.30: "Digital cellular telecommunications system (Phase 2+); Man-Machine Interface (MMI) of the Mobile Station (MS)"
- [6] GSM 02.66: "Digital cellular telecommunications system (Phase 2+); Support of Mobile Number Portability (MNP); Service description; Stage 1"
- [7] GSM 02.79: "Digital cellular telecommunications system (Phase 2+); Support of Optimal Routing; Stage 1"

11 UMTS IC Card, USIM and Terminal

This clause defines the functional characteristics and requirements of the User Service Identity Module (USIM) for use in UMTS. The USIM is an application residing on a UICC.

11.1 The USIM and User Profiles

11.1.1 The USIM

Every USIM shall have a unique identity and shall be associated with one and only one home environment.

It shall be possible for a home environment to uniquely identify a user by the USIM.

The USIM shall be used to provide security features.

For access to UMTS services, provided via a UMTS home environment, a valid USIM shall be required.

The USIM shall support SIM Application Toolkit as specified in 3G TS 22.038 [4].

The USIM shall reside on a UICC, UMTS shall adopt both of the GSM SIM card physical formats. New UMTS terminals may require other formats also. USIM specific information shall be protected against unauthorised access or alteration.

It shall be possible to update USIM specific information via the air interface, in a secure manner.