

Source: TSG SA1

Title: CRs to 22.101 on Support of UMTS AKA for GSM only mobiles
(R4/R5)

Document for: Approval

Agenda Item: 7.1.3

Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc. No.
22.101	060		R4	B	Support of UMTS AKA for GSM only mobiles	4.1.0	4.2.0	S1-000859
22.101	061		R5	B	Support of UMTS AKA for GSM only mobiles	5.0.0	5.1.0	S1-000860

CHANGE REQUEST

✎ **22.101** CR **060** ✎ rev **-** ✎ Current version: **4.1.0** ✎

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ✎ symbols.

Proposed change affects: ✎ (U)SIM ME/UE Radio Access Network Core Network

Title:	✎ UMTS authentication for GSM only mobiles		
Source:	✎ SA1		
Work item code:	✎ TEI4	Date:	✎ 17 Nov. 2000
Category:	✎ B	Release:	✎ REL-4 (Release 4)
Use <u>one</u> of the following categories: F (essential 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 <u>one</u> 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)	

Reason for change:	✎ GSM R99 network supports UMTS authentication. It is therefore interesting that the GSM only R4 mobiles support UMS AKA authentication as well.
Summary of change:	✎
Consequences if not approved:	✎

Clauses affected:	✎ 13
Other specs affected:	<input type="checkbox"/> Other core specifications ✎ <input type="checkbox"/> Test specifications ✎ <input type="checkbox"/> O&M Specifications ✎
Other comments:	✎

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ✎ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 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.

Types of features of UEs

3GPP specifications should support a wide variety of user equipment, i.e. setting any limitations on terminals should be avoided as much as possible. For example user equipment like hand-portable phones, personal digital assistants and laptop computers can clearly be seen as likely terminals.

In order not to limit the possible types of user equipment they are not standardised. The UE types could be categorised by their service capabilities rather than by their physical characteristics. Typical examples are speech only UE, narrowband data UE, wideband data UE, data and speech UE, etc..

In order to enhance functionality split and modularity inside the user equipment the interfaces of UE should be identified. Interfaces like UICC-interface, PCMCIA-interface and other PC-interfaces, including software interfaces, should be covered by references to the applicable interface standards.

UEs have to be capable of supporting a wide variety of teleservices and applications provided in PLMN environment. Limitations may exist on UEs capability to support all possible teleservices and information types (speech, narrowband data, wideband data, video, etc.) and therefore functionality to indicate capabilities of a UE shall be specified.

The basic mandatory UE requirements are:

- ? Encrypted terminal-UICC interface;
- ? Support for GSM phase 2 and 2+ SIM cards, phase 1 5V SIM cards shall not be supported;
- ? Home environment and serving network registration and deregistration;
- ? Location update;
- ? Originating or receiving a connection oriented or a connectionless service;
- ? An unalterable equipment identification; IMEI, see TS 22.016 [12];
- ? Basic identification of the terminal capabilities related to services such as; the support for software downloading, application execution environment/interface, MExE terminal class, supported bearer services.
- ? Terminals capable for emergency calls shall support emergency call without a SIM/USIM.
- ? Support for the execution of algorithms required for encryption, for CS and PS services. Support for non encrypted mode is required;
- ? Support for the method of handling automatic calling repeat attempt restrictions as specified in TS 22.001 [4];
- ? At least one capability type shall be standardised for mobile terminals supporting the GERAN and UTRAN radio interfaces.
- ? Under emergency situations, it may be desirable for the operator to prevent UE users from making access attempts (including emergency call attempts) or responding to pages in specified areas of a network, see TS 22.011 [11];
- ? Ciphering Indicator for terminals with a suitable display;
The ciphering indicator feature allows the ME to detect that ciphering is not switched on and to indicate this to the user. The ciphering indicator feature may be disabled by the home network operator setting data in the SIM/USIM. If this feature is not disabled by the SIM, then whenever a connection is in place, which is, or becomes unenciphered, an indication shall be given to the user. Ciphering itself is unaffected by this feature, and the user can choose how to proceed;
- ? Support for PLMN selection;-
- ? [Support for UMTS AKA authentication for GSM only ME.](#)

Annex A describes a number of features which may optionally be supported by the ME.

CHANGE REQUEST

22.101 CR 061 rev - Current version: 5.0.0

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the symbols.

Proposed change affects: (U)SIM ME/UE Radio Access Network Core Network

Title:	UMTS authentication for GSM only mobiles		
Source:	SA1		
Work item code:	TEI5	Date:	17 Nov. 2000
Category:	B	Release:	REL-5 (Release 5)

Use one of the following categories:

- F (essential 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)

Reason for change:	GSM R99 network supports UMTS authentication. It is therefore interesting that the GSM only R5 mobiles support UMS AKA authentication as well.
Summary of change:	
Consequences if not approved:	

Clauses affected:	14
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 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.

14 Types of features of UEs

3GPP specifications should support a wide variety of user equipment, i.e. setting any limitations on terminals should be avoided as much as possible. For example user equipment like hand-portable phones, personal digital assistants and laptop computers can clearly be seen as likely terminals.

In order not to limit the possible types of user equipment they are not standardised. The UE types could be categorised by their service capabilities rather than by their physical characteristics. Typical examples are speech only UE, narrowband data UE, wideband data UE, data and speech UE, etc..

In order to enhance functionality split and modularity inside the user equipment the interfaces of UE should be identified. Interfaces like UICC-interface, PCMCIA-interface and other PC-interfaces, including software interfaces, should be covered by references to the applicable interface standards.

UEs have to be capable of supporting a wide variety of teleservices and applications provided in PLMN environment. Limitations may exist on UEs capability to support all possible teleservices and information types (speech, narrowband data, wideband data, video, etc.) and therefore functionality to indicate capabilities of a UE shall be specified.

The basic mandatory UE requirements are:

- ? Encrypted terminal-UICC interface;
- ? Support for GSM phase 2 and 2+ SIM cards, phase 1.5V SIM cards shall not be supported;
- ? Home environment and serving network registration and deregistration;
- ? Location update;
- ? Originating or receiving a connection oriented or a connectionless service;
- ? An unalterable equipment identification; IMEI, see TS 22.016 [12];
- ? Basic identification of the terminal capabilities related to services such as; the support for software downloading, application execution environment/interface, MExE terminal class, supported bearer services.
- ? Terminals capable for emergency calls shall support emergency call without a SIM/USIM.
- ? Support for the execution of algorithms required for encryption, for CS and PS services. Support for non encrypted mode is required;
- ? Support for the method of handling automatic calling repeat attempt restrictions as specified in TS 22.001 [4];
- ? At least one capability type shall be standardised for mobile terminals supporting the GERAN and UTRAN radio interfaces.
- ? Under emergency situations, it may be desirable for the operator to prevent UE users from making access attempts (including emergency call attempts) or responding to pages in specified areas of a network, see TS 22.011 [11];
- ? Ciphering Indicator for terminals with a suitable display;
The ciphering indicator feature allows the ME to detect that ciphering is not switched on and to indicate this to the user. The ciphering indicator feature may be disabled by the home network operator setting data in the SIM/USIM. If this feature is not disabled by the SIM, then whenever a connection is in place, which is, or becomes unenciphered, an indication shall be given to the user. Ciphering itself is unaffected by this feature, and the user can choose how to proceed;
- ? Support for PLMN selection;-
- ? [Support for UMTS AKA authentication for GSM only ME.](#)

Annex A describes a number of features which may optionally be supported by the ME.