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CR-Form-v3

CHANGE REQUEST

⌘ **33.102 CR 162** ⌘ rev **1** ⌘ Current version: **4.2.0** ⌘

*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:	⌘	Configurability of cipher use
Source:	⌘	Vodafone Group
Work item code:	⌘	Security visibility and configurability
Date:	⌘	2001-12-19
Category:	⌘	**C**
Release:	⌘	REL-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:	⌘	The visibility and configurability features have never been accurately specified
Summary of change:	⌘	5.5.1 Visibility features are clarified. 5.5.2 Configurability features are clarified and the control functionality specified. 6.4.2 Editorial modification to make it clear that user can control not to accept non-ciphered calls
Consequences if not approved:	⌘	It is not clear how to interpret and implement the features described in 5.5 (requirements, options, examples?) User control mechanism is not specified. Terminal behaviour will be undefined, causing uncertainty for users.

Clauses affected:	⌘	5.5 and 6.4.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	UEA0 capability bit shall be user changeable and set to 0 as default

****** First modified section ******

5.5 Security visibility and configurability

5.5.1 Visibility

Although in general the security features should be transparent to the user, for certain events and according to the user's concern, ~~greater~~ some user visibility of the operation of security features shall ~~should~~ be provided. This ~~yie~~leads to a number of features that inform the user of security-related events~~, such as~~:

- ~~mandatory~~ indication of access network encryption: the property that the user is informed whether the confidentiality of user data is protected on the radio access link, in particular when ~~non-~~unciphered connections~~alls~~ are set ~~-~~up. This feature is subject to control according to a field in the (U)SIM;

- indication of the level of security: the property that the user is informed of~~n~~ the level of security that is provided by the visited network, in particular when a user is handed over or roams into a network with lower security level (e.g. 3G → 2G). Support for ~~T~~this indication is ~~optional from~~ a manufacturer option.

5.5.2 Configurability

Configurability is the property that ~~that~~ the user can configure ~~whether~~ the use or the provision of ~~a service should depend on whether~~ a security feature~~. is in operation. A service can only be used if all security features, which are relevant to that service and which are required by the configurations of the user, are in operation.~~ The following configurability features ~~are suggested~~shall be provided by the ME:

- Enabling/disabling user-USIM authentication: the user shall~~ould~~ be able to control the operation of user-USIM authentication;~~, e.g., for some events, services or use.~~

- Accepting/rejecting ~~incoming non-~~unciphered ~~calls~~connections: the user shall~~ould~~ be able to control, via the ME~~S~~ user interface, whether the user accepts or rejects ~~incoming non-~~unciphered connections~~calls~~ with the following provisions~~;~~:

  ~~- the user control for accepting/rejecting non-ciphered connections shall be pre-set to 'reject' in ME from manufacturer and shall return automatically to 'reject' position after a ciphered connection has been set up~~

  - when the ME is first ~~time~~ activated with a (U)SIM inserted, the user control for accepting/rejecting connections shall be automatically pre-set according to the following rules:~~capability of the network according to ciphering, i.e. pre-setting to 'reject' if ciphering is used or 'no-reject' if no ciphering is used.~~

    - if the relevant field in the (U)SIM indicates that the user shall not be informed when an unciphered connection is set up, then the control shall be pre-set to 'accept';

    - if the relevant field in the (U)SIM indicates that the user may be informed when an unciphered connection is set up and a further field in the (U)SIM indicates that the pre-set mode shall be 'reject' then the control shall be pre-set to 'reject';

    - otherwise the control shall be pre-set to 'accept'.

  - if the ME~~terminal~~ is in ~~'~~'reject'~~'~~ ~~position~~mode, and a ciphered connection can ~~not~~ be provided, and the relevant field in the (U)SIM indicates that the user may be informed when an unciphered connection is set up, the connection attempt ~~is~~shall be rejected and the user should be informed of this and prompted if she wants to allow ~~non-~~unciphered connections until ciphering is available;

  - emergency calls shall override the rejection of ~~non-~~unciphered connections. ~~feature~~

  ~~- Setting up or not setting-up non-ciphered calls: the user should be able to control whether the user sets up connections when ciphering is not enabled by the network;~~

  - the user shall be able to disable the rejection of ~~non-~~unciphered connections ~~feature~~ so that ~~non-~~unciphered connections will always be accepted (until ~~further notice~~the user re-enables the rejection of unciphered connections).

- ~~Accepting/rejecting the use of certain ciphering algorithms: the user should be able to control which ciphering algorithms are acceptable for use.~~

****** Next modified section ******

6.4.2 Ciphering and integrity mode negotiation

When an MS wishes to establish a connection with the network, the MS shall indicate to the network in the MS/USIM Classmark which cipher and integrity algorithms the MS supports. This information itself must be integrity protected. As it is the case that the RNC does not have the integrity key IK when receiving the MS/USIM Classmark this information must be stored in the RNC. The data integrity of the classmark is performed, during the security mode set-up procedure by use of the most recently generated IK (see section 6.4.5).

The network shall compare its integrity protection capabilities and preferences, and any special requirements of the subscription of the MS, with those indicated by the MS and act according to the following rules:

1) If the MS and the network have no versions of the UIA algorithm in common, then the connection shall be released.

2) If the MS and the network have at least one version of the UIA algorithm in common, then the network shall select one of the mutually acceptable versions of the UIA algorithm for use on that connection.

The network shall compare its ciphering capabilities and preferences~~, and any special requirements of the subscription of the MS,~~ with those indicated by the MS and act according to the following rules:

1) If the MS and the network have no versions of the UEA algorithm in common and one or both of the network ~~or~~and the MS is not prepared to use an unciphered connection, then the connection shall be released;~~.~~

2) If the MS and the network have no versions of the UEA algorithm in common and both the ~~user~~ MS ~~(respectively the user's HE)~~ and the network are willing to use an unciphered connection, then an unciphered connection shall be used.

3) If the MS and the network have at least one version of the UEA algorithm in common, then the network shall select one of the mutually acceptable versions of the UEA algorithm for use on that connection.

Because of the separate mobility management for CS and PS services, one CN domain may, independent of the other CN, establish a connection to one and the same MS. Change of ciphering and integrity mode (algorithms) at establishment of a second MS to CN connection shall not be permitted. The preferences and special requirements for the ciphering and integrity mode setting shall be common for both domains. (e.g. the order of preference of the algorithms).

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