CR-Form-v7

CHANGE REQUEST

| ⌘ | **22.101** CR **CRNum** | ⌘**rev** | **-** | ⌘ | Current version: | **6.4.0** | ⌘ |

*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⌘ ☐   ME **X** Radio Access Network ☐ Core Network **X**

Title: ⌘	Clarification of emergency call requirements	
Source: ⌘	Lucent Technologies, Siemens, Nokia	
Work item code: ⌘	EMC1	**Date:** ⌘ 12/09/2003
Category: ⌘ **C**		**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 current specification does not clearly differentiate between requirements to be fulfilled by the Core Network and requirements to be fulfilled by the UE. Furthermore, it does not spell out actions to be taken by the UE when an emergency call is attempted. Because of the possibility of different UE and CN capabilities, a clear hierarchy of UE requirements is needed.
Summary of change: ⌘	Clear differentiation between requirements for the UE and requirements for the CN. Clarification of the requirements for action for a UE to make an emergency call for various scenarios.
Consequences if not approved: ⌘	UE and Network behavioural characteristics will be unclear under certain conditions of emergency call attempt.

Clauses affected: ⌘	10.1-10.6

	Y	N		
Other specs ⌘	X		Other core specifications ⌘	TS 23.228
affected:		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	

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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

2.1 Normative references

[1]   3GPP TS 22.105 "Services and Service Capabilities"

[2]   3GPP TS 22.121: "Virtual Home Environment (VHE), Stage 1"

[3]   3GPP TS 22.038: "SIM application toolkit, stage 1"

[4]   3GPP TS 22.001: " Principles of Circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".

[5]   3GPP TS 22.004: General on supplementary services"

[6]   3GPP TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE)"

[7]   3GPP TS 22.066: "Support of Mobile Number Portability (MNP); Service description; Stage 1"

[8]   3GPP TS 22.079: " Support of Optimal Routing; Stage 1"

[9]   3GPP TS 22.129: "Handover Requirements between UTRAN and GERAN or other Radio Systems"

[10]   3GPP TS 33.102: "Security Architecture"

[11]   3GPP TS 22.011: "Service Accessibility"

[12]   3GPP TS 22.016: "International mobile Station Equipment Identities (IMEI)"

[13]   3GPP TS 24.008: " Mobile Radio Interface Layer 3 Specification"

[14]   3GPP TS 22.003: "Circuit Teleservices supported by a Public Land Mobile Network (PLMN)"

[15]   3GPP TS 21.133: "Security Threats and Requirements"

[16]   3GPP TS 33.120: "Security Principles"

[17]   3GPP TS 22.042: "Network Identity and Time Zone, Service Description, Stage 1"

[18]   3GPP TS 42.009: " Security Aspects"

[19]   3GPP TS 31.102: "USIM Application Characteristics"

[20]   3GPP TS 23.221 "Architectural Requirements"

[21]   3GPP TS 22.002: "Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)"

[22]   3GPP TS 22.060: "General Packet Radio Service (GPRS)"

[23]   3GPP TS 29.002: "Mobile Application Part (MAP) specification "

[24]   3GPP TR 23.972: "Circuit Switched Multimedia Telephony".

[25]   3GPP TS 22.140: "Multimedia messaging service; Stage 1".

[26]   3GPP TS 22.226: "Global Text Telephony, Stage 1."

[27]   3GPP TS 22.228: "IP multimedia (IM) CN subsystem, stage 1"

[28]   RFC 3261: "SIP: Session Initiation Protocol"

 [29]   3GPP TR 21.905: " Vocabulary for 3GPP Specifications"

[30]   3GPP TS 26.233: "Packet Switched Streaming Service (PSS) ; General Description"

[31]   3GPP TS 26.234: "Packet Switched Streaming Service (PSS) ; Protocols and Codecs"

[32]   3GPP TR 22.934: "Feasibility study on 3GPP system to Wireless LAN interworking"

[33]   RFC 2486: "The Network Access Identifier"

[34]   TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) interface", Release 4

[35]   3GPP TS 26.236: "Packet-switched conversational multimedia applications"

3   Definitions, symbols and abbreviations

3.1   Definitions

Definitions are given in 3GPP TR 21.905 [29].

3.2   Abbreviations

For the purposes of this TS, the following abbreviations apply:

    ME   Mobile Equipment
    PC   Personal Computer
    PS-IMS   PS domain with IMS capability

Further abbreviations are given in 3GPP TR 21.905 [29].

*************NEXT CHANGE **********************

10 Emergency Calls

10.1 General requirements

It shall be possible to establish an emergency speech call. Emergency calls will be routed to the emergency services in accordance with national regulations for where the subscriber is located. This may be based upon one or more default numbers stored in the ME. It shall be allowed to establish an emergency call without the need to dial a dedicated number to avoid the mis-connection in roaming case, such as menu, by use of a 'red button', or a linkage to a car air bag control. Emergency Calls shall be supported by the UE without a SIM/USIM being present. No other type than Emergency calls shall be accepted without a SIM/USIM.

If a network supports speech call to the PSTN then operators support of emergency calls is as defined by operators. For 3GPP operators:

- The CS domain shall support emergency calls (TS12)[14]

- The PS-IMS domain shall be able to support emergency calls

Note: An IP-Connectivity Access Network network is not necessarily defined to support IMS. See 3GPP TS 22.228 [27] for complete requirements of an IMS-capable network. In particular, the IM CN subsystem shall support interworking with existing fixed and mobile voice and IP data networks, including PSTN, ISDN, Mobile and Internet.

The Emergency service is required only if the UE supports voice. If a UE supports TS11(Telephony)[14], then it shall also support TS12(Emergency Calls)[14]. If a UE is IMS speech call capable, then it shall be able to support IMS emergency calls. A UE is called "IMS speech call capable" if it supports audio communication in IMS per 3GPP TS 26.236 [35].

Note: It will be left to the national authorities to decide whether the network should accept emergency calls without the SIM/USIM.

It shall be possible to initiate emergency calls to different emergency call centers, depending on the type of emergency. The following types of emergency calls shall be possible:

- Police

- Ambulance

- Fire Brigade

- Marine Guard

- Mountain Rescue

- Spare, at least [three] different types

When a SIM/USIM is present, subscriber specific emergency call set-up MMI shall be provided. The Home Environment operator shall specify preferred emergency call MMI(s) (e.g. 911 for US citizens or 110, 118 and 119 for Japanese citizens). This shall be stored in the SIM/USIM and the ME shall read this and use any entry of these digits to set up an emergency call. It shall be possible to store more than one instance of this field.

Note: Release '98 and earlier SIM cards have the capability to store additional emergency call set-up MMI. However in many cases this has not been used.

It shall be possible to tie any emergency call number, specified in the preferred emergency call MMI(s) above, to any single emergency call type or to any combination of emergency types. The association between emergency numbers and emergency call type shall be able to be programmed by the Home Environment operator into the SIM/USIM.

Example:

> 19 Police (Albania)
>
> 100 Police and Fire Brigade (Greek cities)
>
> 100 Ambulance and Fire Brigade (Belgium)
>
> 112 Police and Ambulance (Italy)
>
> 112 General emergency call, all categories (Sweden)
>
> 115 Fire Brigade (Italy)
>
> 114 Ambulance (Austria)

Note: if the UE does not recognise the emergency call MMI(s) (i.e. the dialled number is not stored in SIM/USIM) but the serving network recognises the dialled number as an emergency call number used in the country, a normal call set up takes place over the radio interface and after the serving network has recognised the emergency number the call is routed as an emergency call.

When a SIM/USIM containing stored emergency numbers is present, only those numbers are identified as emergency numbers, i.e. default emergency numbers stored in the ME are ignored.

The following emergency numbers shall be stored in the ME for use when no emergency numbers are stored in the SIM/USIM: 000, 08, 112, 110, 911 and 999.

Note: Emergency numbers stored in the ME, for use when no emergency numbers are stored in the SIM/USIM, should not overlap with existing service numbers used by any operator.

The user friendly MMI which specifies the type of emergency directly (e.g. menu) should be supported for use in any (i.e. home or visited) PLMN to avoid the mis-connection in roaming case. This shall be allowed to both with and without SIM/USIM being present.

The following emergency numbers shall be stored in the ME for use without SIM/USIM: 000, 08, 112, 110, 118, 119, 911 and 999.

The serving network may download additional emergency numbers to the UE in order to ensure that local emergency numbers are known to the UE. The UE shall regard these emergency numbers as valid in that country (as identified by the MCC) and shall discard them when a new country is entered.

10.2 Priorities for CN domain selection

The priority for CN domain selection when the UE attempts an emergency call is given in Table 1.

Table 1: Network selection priority for emergency calls

UE Capability	UE state	UE action
CS (including TS 11) capable only	Any	Attempt call in CS domain
CS data capable only	Any	No support for emergency calls
PS capable only (no IMS)	Any	No support for Emergency calls
IMS (including speech call) capable only	Any	Attempt call in IMS
CS (including TS 11) and PS capable only	Any	Attempt call in CS domain
CS (including TS 11) and IMS (including speech call) capable	UE is ready to establish an emergency call in the CS domain or in the PS-IMS domain	Attempt call as specified by the serving network operator. If no preference is known by the UE, UE attempts call on CS domain
CS (including TS 11) and IMS (including speech call) capable	UE is ready to establish an emergency call in the CS domain only	Attempt call in CS domain
CS (including TS 11) and IMS (including speech call) capable	UE is ready to establish an emergency call in the PS-IMS domain only	Attempt call in IMS.

10.~~2~~3   Emergency calls requirements for~~when attached to~~ a CS ~~CN~~ Domain

A CS Domain~~PLMNs~~ shall support ~~an~~ the emergency call teleservice as defined in 3GPP TS 22.003 [14] (TS12).

10.~~3~~4   Emergency ~~Calls~~ calls requirements for~~when Attached to a Data Only Network~~ a PS Domain

Without the IM CN subsystem, emergency calls are not supported in the PS CN domain.

~~If an UE with voice capability attempts to make an emergency call while camping on a PLMN that does not support voice service to the UE, a new PLMN selection shall immediately take place, and the UE shall select the first available PLMN that supports emergency calls to the UE.~~

10.~~4~~5 Emergency calls requirements for ~~when attached to~~ an IM CN subsystem

It shall be possible to support Emergency calls (speech) ~~shall be supported when attached to~~over an IM CN subsystem. ~~as specified in subclause 10.1.~~

~~If UE is attached simultaneously to both CS domain and IM CN subsystem, the operator shall be able to specify, which domain is used by default for emergency calls.~~

For further information see 3GPP TS 22.228 [27].

~~It shall be possible to enable compliance with regional regulatory requirements related to emergency calls.~~

Note: Other forms than speech for emergency services are for further study.

10.~~5~~6   Emergency Calls when Attached via an Interworking WLAN

~~Any attempt to make an emergency call shall be handled as defined for a Data Only network in section 10.3.~~Emergency calls are not supported for I-WLAN.