Technical Specification Group Services and System Aspects
Meeting #6, Nice, France, 15-17 December 1999

TSGS#6(99)528

Source: **TSG SA1**

Title: **CR to 22.100 on Support of Mobile IP in release 99**

Document for: **Approval**

Agenda Item: **5.1.4**

Status	Spec	CR	Rev	Phase	Subject	CAT	Vers	New Vers	TSG Meeting	TSG Doc.No.	Pres
	22.100	028		R99	Support of Mobile IP in release 99	B	3.4.0	3.5.0	S1#06	S1-991047	No

TSG-SA Working Group 1 (Services) meeting#6
San Diego, USA, 29th November – 3rd December 1999

TSG S1 (99) 1047

Agenda: 6

3G CHANGE REQUEST

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

22.100 **CR** Current Version: 3.4.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG SA#6 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

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 [X]

Source: TSG SA1 **Date:** 1999-12-02

Subject: Support of Mobile IP in release 99

3G Work item: 3TS/SA-0122100

Category: *(only one category shall be marked with an X)*

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

Reason for change: 3GPP SA2 have for GSM/UMTS release 99 included support of Mobile IP in the architecture for the core network.
The corresponding requirements for this should be included in 3GPP SA1 specifications.

Clauses affected: Clause 9

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:

help.doc

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

9 UMTS Core Network

NOTE 1: The term performance refers in this clause to the resource level usage and reliability of the UMTS core network.

NOTE 2: It is not required for phase 1 UMTS core networks to support calls with multiple connections. Multiple connections for a single mobile could be realised through several calls.

In the first phase of UMTS, the UMTS core network capabilities are a superset of the phase 2+ release 99 GSM core network capabilities. The additional requirements for the phase 1 UMTS core network are the following :

1) The phase 1 UMTS core network shall support circuit switched data service capability of at least 64 kbit/s per user. This shall not limit the user from choosing lower data rates.

2) The phase 1 UMTS core network shall support packet switched data service capabilities of at least 2 Mbit/s peak bit rate per user. This shall not limit the user from choosing lower data rates.

3) The phase 1 UMTS core network shall enable set-up, re-negotiation and clearing of connections (i.e. CS calls or PS sessions) with a range of traffic and performance characteristics. . The re-negotiation of QoS attributes / bearer may be caused by an application or the user via an application (see UTRAN capability section). It shall be possible to apply traffic policing (e.g. connection admission control, flow control, usage parameter control...) on a connection during its set-up and lifetime.

4) The phase 1 UMTS core network shall support a range of traffic and performance characteristics for connectionless (e.g. unicast, broadcast, and multicast) traffic.

5) The range of traffic and performance characteristics that shall be supported by the phase 1 UMTS core network shall be at least those of GPRS phase 2+ release 99. This means that the support of the full set of bearer services defined in TS 22.105 is not required for the phase 1 UMTS core network.

6) Established bearers shall not prevent the set-up of a new bearer. These new bearers can be of any type (e.g. PS, CS). It is nevertheless expected that the terminal and network capabilities will put some limitations on the number of bearer services that can be handled simultaneously. It shall be possible for each bearer to have independent traffic and performance characteristics.

7) In order to facilitate the development of new applications, it shall be possible to address applications to/from a phase 1 UMTS mobile termination (e.g. the notion of Internet port).

8) Operator specific services based on the VHE concept shall be supported by the phase 1 UMTS core network. This functionality could be provided through available toolkits (such as CAMEL, MExE, WAP and SIM Toolkit).

9) If UMTS authentication is invoked while a user has services active, the authentication shall not degrade the user services.

10) The phase 1 UMTS core network shall support the generation of standardised charging records based upon parameters such as the dialled number, call duration, traffic (volume, bit rate) and perceived Quality of Service provided to the user.

11) The phase 1 UMTS core network shall support on-line billing. Billing of 3rd party value added services with the concept of one-stop-billing shall be supported by the phase 1 UMTS core network through standardised procedures.

12) The phase 1 UMTS core network shall support both bilateral and (possibly via 3rd party) automatic roaming procedures to UMTS networks with improved security as defined by SMG10.

13) The phase 1 UMTS core network shall support interworking with PSTN, N-ISDN, GSM, X.25 and IP networks with their respective numbering schemes.

14) It shall be possible for the standardised classes of phase 1 UMTS mobile terminals supporting the GSM BSS and UTRAN radio interfaces to roam in GSM networks and receive GSM services.

15) Standardised protocols shall be defined for the operation, administration and maintenance of the UMTS phase 1 core network in cooperation with ETSI TMN.

16) The USIM requirements defined for later releases of UMTS should be taken into account in the design of the phase 1 UMTS core network.

17) phase 1 UMTS core network shall provide an effective solution of inter-network traffic and signalling in case of global roaming.

18) phase 1 UMTS core network shall support facilities for monitoring and measurement of traffic flows and characteristics within the network eg for congestion control.

19) phase 1 UMTS core network shall support single and multiple numbering schemes described in 22.101

20) The phase 1 UMTS core network shall, as an option, support IP mobility between different environments such as fixed and mobile, public and private and between different public systems