3GPP TSG SA WG2 #8   S2-99962
September 13-17, 1999
Bonn, Germany

To:	3GPP SA WG1, RAN WG2, RAN WG3
Source:	3GPP SA WG2
Title:	SRNS Relocation and handover

During the SA2 meeting in Bonn during the week of September 13, the principles for UMTS/GPRS handover, SRNS Relocation, and UMTS handover via the core network were discussed. This discussion was a continuation of the one during the workshop on these topics in Sophia Antipolis in August. Some questions addressed during the SA2 meeting were:
1. The need for interoperating with a GPRS release 97 core network.
2. The need for supporting handover of real time services to GPRS release 99
3. The need for a bi-casting mechanism for supporting real time services during SRNS relocation and handover via the core network.

It was decided that it is not possible to provide a procedure for handing over real time services between UMTS and GPRS in release 99. It was noted that a network initiated handover procedure is needed for real time services and this requires enhancements on the Gb interface procedures, which are not currently included in release 99 GPRS. This must be addressed in the next phase of GPRS and UMTS.

For non real time services it was decided that the currently proposed principles and procedures described in 23.121 shall be used for SRNS relocation. Packets in the source RNC buffers will be forwarded to the target RNC.

Two solutions were discussed for the support of real time services

   i.) Packets will be routed from the source RNC to the target RNC after the Relocation Commit signal is sent to the target RNC until the target RNC detects packets coming from the GGSN. This is described in attached Tdoc 99 S2 912

   ii.) Packets are bi-cast from the GGSN to both the target and source RNC during relocation or handover. This is described in attached Tdoc 99 S2 935, section 2.

Consensus was not reached on which approach was adequate for the support of real time services. It is therefore proposed that for release 99 real time services packets will be routed from the source RNC to the target RNC after the Relocation Commit signal is sent to the target RNC until the target RNC detects packets coming from the GGSN.

It was proposed that a bi-casting mechanism for relocation and handover of real time services is taken as a working assumption for R00 if the R99 solution is found not to be adequate. In order to determine if the solution selected for R99 is adequate for real time services or if a bi casting mechanism is required in R00 SA1, R2 & R3 are asked to give their opinion on the following:

The following questions are addressed to SA1:

1. What is an acceptable transmission break time to the mobile (mute period) for real time services? Should it be assumed that performance should be at least better than GSM?

2. In addition SA1 are asked if it is a requirement to handover to:

   a. GPRS release 97 core network?

   b. GPRS release 99 core network for real time services?

The following questions are addressed to R2 and R3:

1. What is the mute period commonly achieved during handover for voice calls on a GSM network?

2. For the above solution i.) for real time services what is the likely resulting mute period for a hard handover?

3. For real time services what is the likely resulting latency / mute period for a SRNS relocation based on the above solution i.)?

4. R2 & R3 are asked to comment on the general performance of both approaches for the support of real time services.