

SOURCE: NOKIA

TITLE: STATUS IN CIPHERING COMMUNICATION BETWEEN MS AND SMLC IN GPRS

1. SUMMARY

3GPP TSG GERAN LCS ad-hoc #1 did send a Liaison Statement to TSG SA3 requesting advice in ciphering issue. The issue was how to handle ciphering of communication between MS and SMLC which is located in the GERAN. Two possible approaches to solve the ciphering issue were considered: one based of LLC layer split between SGSN and SMLC, another based on RLC/MAC layer. Since then the RLC/MAC based proposal was discarded, the LLC –based solution is still valid. Moreover, another proposal was introduced in Tdoc [1].

In addition, LCS support in PS mode supporting all the chosen positioning methods is postponed to release 5 standards.

The two proposals are shortly described by the following two signalling flows

Approach 1, LLC split

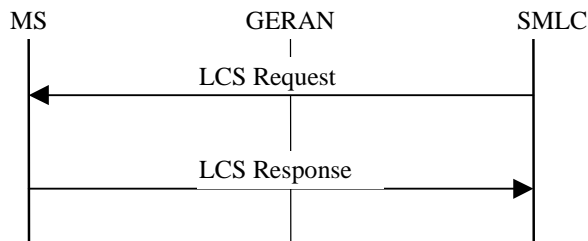
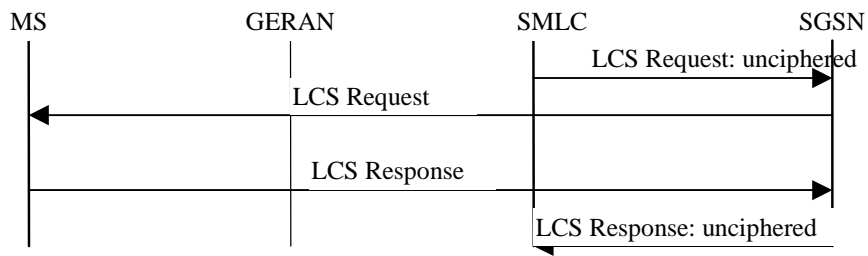


Figure 1 LLC split based ciphering

In this approach the SMLC – MS communication is accomplished in the GERAN without any involvement of core network elements. There exists an instance of LLC layer in the SMLC which handles ciphering. The concept is described in Tdoc GAHL-000009[2]. Concerns with this approach are discussed in the Tdoc [3].

Approach 2, SGSN routing

**Figure 2 SGSN routing**

In this approach all the messages between MS and SMLC are routed through SGSN for ciphering. The main concern with this approach is that it increases the load on Gb interface.

REFERENCES

- [1] Tdoc GAHL-010013: BSS+ Protocol Architecture to Support LCS in GPRS
- [2] Tdoc GAHL-000009: Ciphering white paper
- [3] Tdoc GAHL-010011: Additional Issues with the "LLC to SMLC" Proposal for LCS in GPRS