TSG-RAN Working Group 3 meeting #8   *TSGR3#8(99)e37*

Abiko, Japan, 25 – 29 October 1999

TSG-RAN Working Group 3 meeting #7   *TSGR3#7(99)C91*
Sophia Antipolis, 20-24 September 1999

3GPP_TSG_SA_WG2   Tdoc S2-99798
23th - 27th August 1999
Sophia Antipolis, France

Title: **Liaison statement on a Common Communication Mechanism to be used by the Cell Broadcast Service**

Source: SA2

Liaison to: RAN3, N1, N2.

CC: RAN2, T2-SWG3.

We would like to forward you our most recent work regarding an architecture solution for the Cell Broadcast Service. This LS aims to kindly inform the concerned 3GPP groups on the current working assumption within TSG SA2.

We would appreciate any comments you might have on the solutions outlined in this LS.

1 Common Communication Channel in the CN

It has been agreed to introduce a common communication mechanism (name to be defined) for nodes of the Core Network to reach every RNC of the UTRAN. This communication channel can be used for application like cell broadcast or location based services (LCS).

This communication mechanism would use e.g. an IP routing functionality of the 3G-SGSN. The according protocol stack is outlined in figure 1.
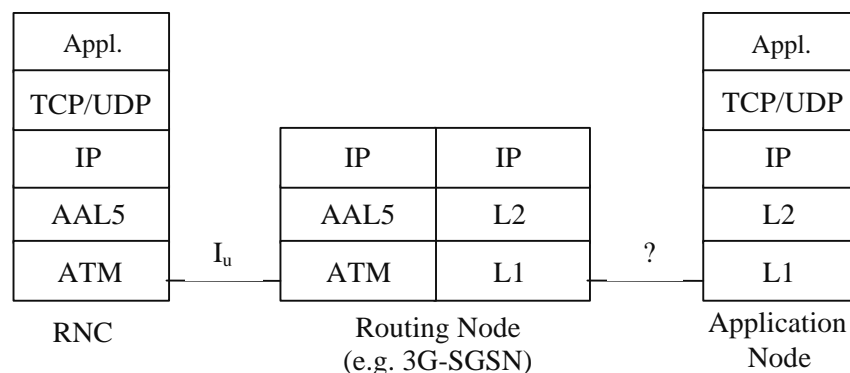

Figure 1: Protocol Stack of the Common Communication Channel

The following issues until now are identified and have to be solved:

1. IP Routing functionality in the 3G-SGSN,
2. An appropriated layer 3 protocol has to be chosen (TCP or UDP) per application,
3. Addressing of the Application and Application node by the RNC(s),
4. Addressing (dynamic or static) of the application (e.g. CBC) on the RNC(s).

The next section shows with the help of the cell broadcast service an application of the common communication channel.

2 Cell Broadcast Architecture

The *Short Message Service Cell Broadcast* (SMS CB) was defined as a UMTS Release 99 requirement to guarantee the continuity of the corresponding GSM services. It shall be provided seamlessly (as far as the user or the users terminal equipment is concerned) across the UMTS and GSM network.

TSG SA2 agreed to integrate the *cell broadcast center (CBC)* into the core network and to use the newly introduced common communication channel to communicate with the RNC's of the UTRAN. Figure 2 shows the resulting network architecture.
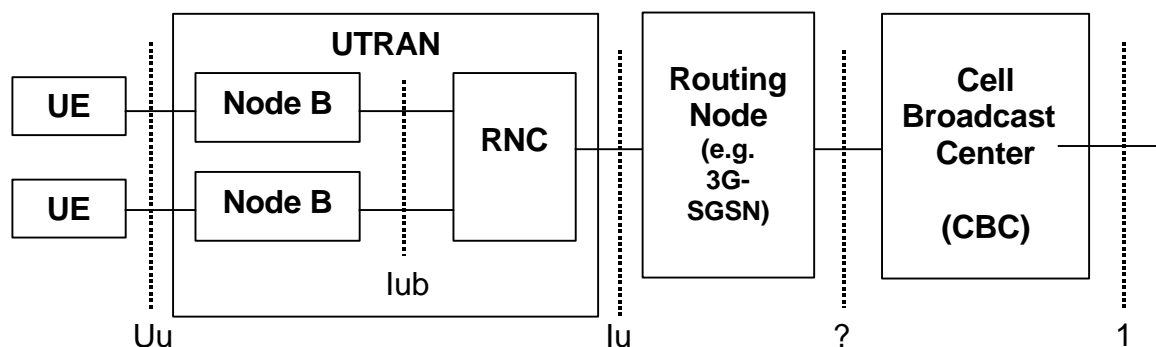

Figure 2: Network Architecture for SMS Cell Broadcast in Release 99

The CBC talks to every RNC by using the ? interface (?=reference point to be defined) and the Iu interface and can provide the user data to the RNC which distribute the information further to the cells. The mechanism inside the UTRAN are currently under discussion inside the RAN groups.

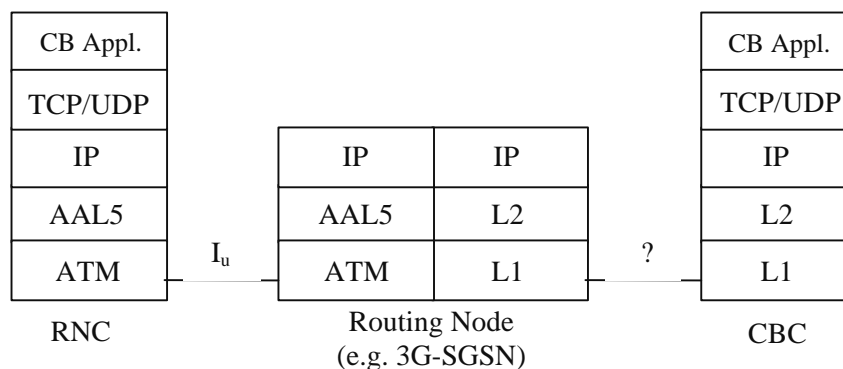The protocol stack looks like in figure 3 using GSM 03.41 [1] as protocol for the Cell Broadcast application.

Figure 3:Common Communication Channel used by the Cell Broadcast Application.

2.1 References

[1] GSM 03.41. *Technical realization of Short Message Service Cell Broadcast (SMSCB).* Version 6.1.0 Release 1997