

Technical Specification Group Services and System Aspects **TSGS#9(00)0470**  
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## **GSM North America**

*The North American Interest Group of the GSM Association*

September 14, 2000

### **Location Services Functionality in 3GPP Specifications**

To:

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Dear Chairpersons,

The GSM-NA has recently become aware that location services functionality standardized in GSM Releases '98 and '99 is missing from the 3GPP Release 2000 GERAN and UMTS specifications currently under development.

The missing functionality is viewed as being important to North American carriers in providing an open flexible architecture, ensuring architectural compatibility with existing releases, and is required for the deployment of network based as well as handset based solutions.

We therefore respectfully request that the GERAN and UMTS Release 2000 specifications fully support the same network elements and protocols standardized in GSM Releases '98 and '99, including the interfaces between

- the BSC and the network based SMLC (Lb), and
- the MSC/VLR and the network based SMLC (Ls), and
- the LMU (Type A) and the BTS (over the air, Um), and
- the LMU (Type B) and the BTS (fixed connection), and
- the Cell Broadcast Center and the SMLC.

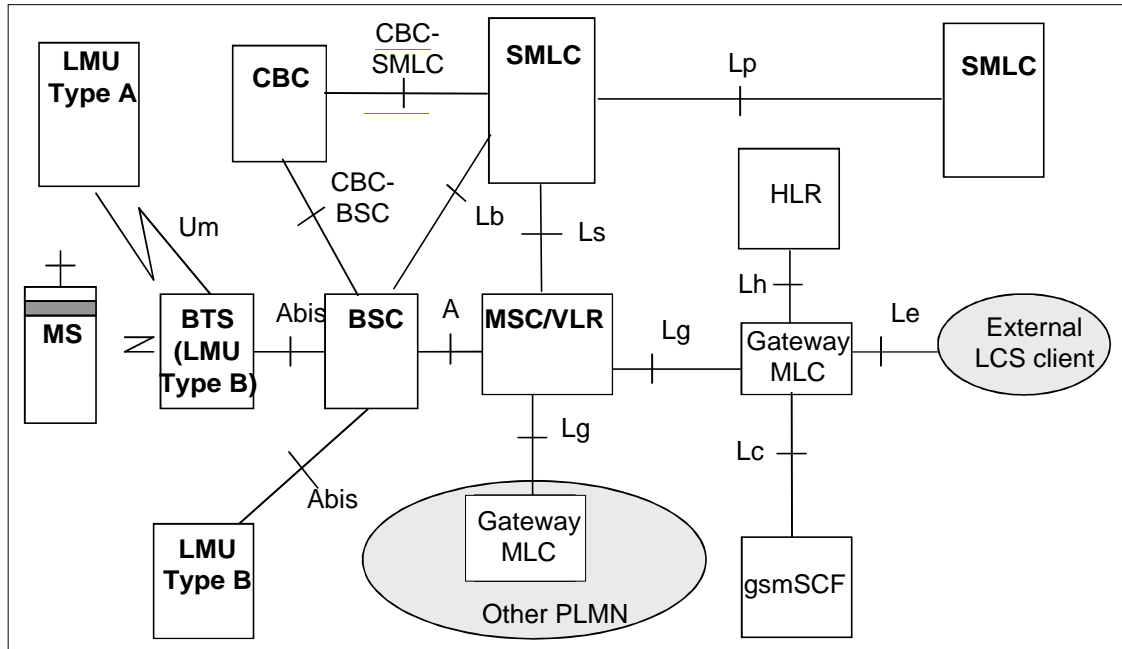
Sincerely yours,

[signed copy on file]

Jim Murrell  
Chair, GSM North America

## GSM North America

The open flexible architecture standardized in GSM releases '98 and '99 is shown in the following figure.



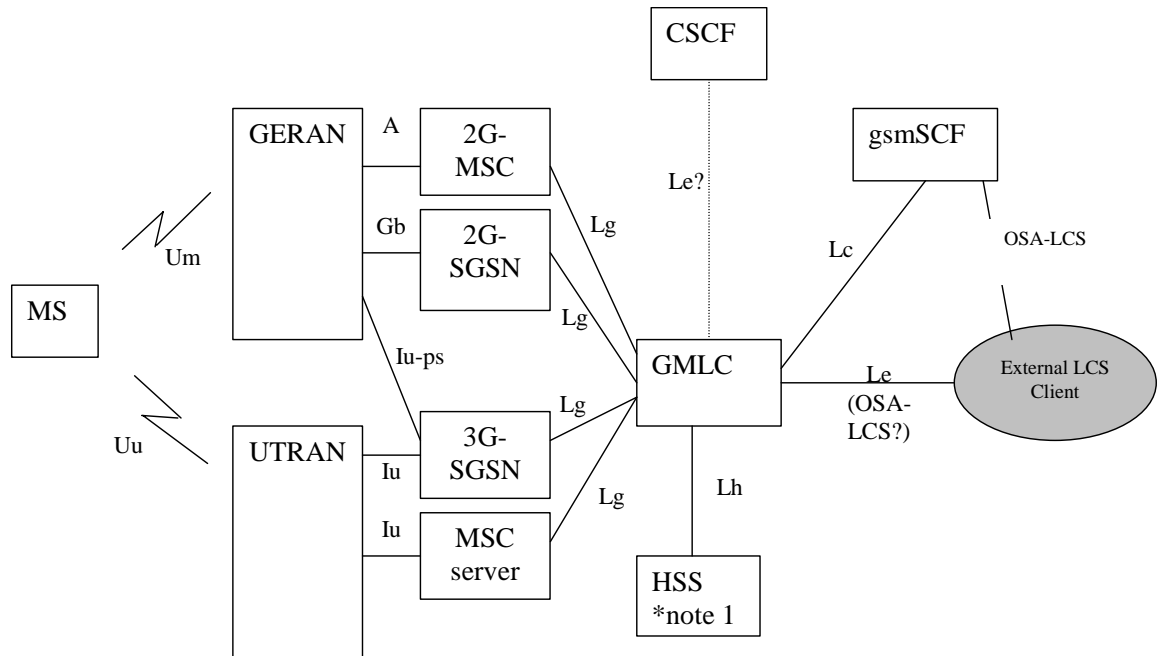
Generic LCS Logical Architecture  
Source: GSM 03.71 version 7.3.0 Release 1998

Note that open standardized interfaces are defined between

- the BSC and SMLC (Lb)
- the MSC/VLR and the SMLC (Ls)
- the LMU (Type A) and the BTS (over the air, Um)
- the LMU (Type B) and the BTS (fixed connection)
- the Cell Broadcast Center and the SMLC

## GSM North America

The following figure depicts the “Release 2000” location services architecture.



Generic LCS Logical Architecture  
Source: 3GPP TS 23.271 V 0.0.0 5/00

Note that the explicit indication of the Serving Mobile Location Center (SMLC) as a separate network element in the core network is missing, along with supporting interfaces. Support for standalone Location Measurement Units using air interfaces and fixed interfaces are also missing. Support for usage of the Cell Broadcast Center to broadcast network assistance information for location services is also missing.

These network elements are required for North American operators who choose to deploy network based solutions in order to meet FCC Phase 2 Emergency Services requirements.