

Technical Specification Group Services and System Aspects **TSGS#13(01)0518**
Meeting #13, Beijing, China, 24-27 September 2001

Source: TSG SA WG2
Title: Revised WID for LCS in Rel-5
Agenda Item: 7.2.3

It is proposed to agree the Work Item description regarding location services in Release 5 as shown below. This Work Item description covers all system and core network aspects of LCS and is a revision of the WID presented in SA Plenary#12 in June. The SA Plenary returned the LCS WID to SA2 for completion.

Work Item Description

Title

Support of Location Services in Release 5, System and Core Network aspects.

1 3GPP Work Area

| | |
|---|--------------|
| | Radio Access |
| X | Core Network |
| X | Services |

2 Linked work items

Support of Location Services in UTRA FDD

Support of Location Services in UTRA TDD

Support of Location Services in Packet Switched GERAN and circuit switched LCS enhancements

The 3GPP Generic User Profile

Specification for the Le Interface

3 Justification

LoCation Services (LCS) provide the mechanisms to support mobile location services for operators, subscribers and third party service providers.

This Work Item is needed in order to fulfill the requirements on supporting LCS in the GERAN packet switched domain and to enhance LCS with new service features in Release 5.

4 Objective

The service description stage 1 specification 22.071 shall be common for all Access Networks. The new LCS service features to be developed or studied in Release 5 are:

- Location services in GERAN packet switched domain

The task is to include the system and core network aspects of LCS support in GERAN packet switched domain in TS 23.271 Rel'5.

- Event driven deferred LCS request

Event driven LCS is included in Rel'4 to determine the position of a mobile when it becomes active in the network. Other types of events to initiate location reports should be investigated for Rel-5, first in SA1, if needed, to determine the service aspects of event driven LCS request, e.g. different types of events. Some events could be related to localised services, e.g. services limited to UEs in a defined area or location based charging where the tariff is changed according to terminal whereabouts.

- Periodic location reports

Periodic LCS could be seen as Event based LCS, where the event is that a defined period timer is running out and activates a location request/report. In Release 4 it has been decided that GMLC handles periodic LCS request, but in Rel-5 it should be investigated if also other network elements like MSC, SGSN, UE and RNC could handle periodic location reports autonomously. Depending upon how these possibilities are resolved, there may need to be a separate new RAN work item to cover RNC based periodic UE Positioning and a new T work item to cover UE based periodic UE Positioning aspects in Rel-5.

- Standardization of the Le interface

There is a separate Work Item on a standardized Le interface between the LCS Client and GMLC. There are specifications being established that are applicable for this interface and it will be investigated whether such a specification would be applicable for 3GPP LCS, as specified in LCS stage 1 (22.071) and stage 2 (23.271). If found appropriate, the Le work item could be completed by adding references to the established specification for the Le interface in TS 22.071 and TS 23.271. In case there is need for alignment or improvement, this will be communicated with the corresponding forum.

- Enhanced support for user privacy and subscriber data handling

It should be studied how the privacy mechanisms provided for Location Services could be enhanced to support the increasing number of LCS clients and the varying privacy requirements for location services. It should also be possible for the user to set or change the location related privacy parameters in the home network. A Technical Report will be generated on this issue in Rel-5.

- Relationship between Location Services and Presence service

This issue should be studied.

The detailed LCS time plan is documented in the 3GPP Work Plan.

| Task | Planned Start | Planned Finish |
|--|----------------------|-----------------------|
| Work Item Revision | 5/2001 | 8/2001 |
| Work Item Approval | | 9/2001 |
| Drafting and discussion, updates of specifications | 8/2001 | 12/2001 |
| Submission to TSG CN and SA for approval | | 12/2001 |
| Possible remaining corrections and clarifications | | 6/2002 |

5 Service Aspects

Yes

6 MMI-Aspects

7 Charging Aspects

8 Security Aspects

It should be studied are there some implications on User Privacy in periodic or deferred location reporting.

9 Impacts

| Affects: | USIM | ME | AN | CN | Others |
|-------------------|-------------|-----------|-----------|-----------|---------------|
| Yes | X | X | X | X | |
| No | | | | | |
| Don't know | | | | | |

10 Expected Output and Time scale (to be updated at each plenary)

| New specifications | | | | | | |
|---|---|--|--------------------|---------------------------------------|----------------------|----------|
| Specification No. | Title | Prime resp. WG | 2ndary resp. WG(s) | Presented for information at plenary# | Approved at plenary# | Comments |
| TRxx.yyz | Technical Report on enhanced privacy support in location services | SA2 | SA1 | SA#14 | SA#14 | |
| Affected existing specifications | | | | | | |
| Specification No. | CR | Subject | | Approved at plenary# | Comments | |
| 22.071 | | Location Services (LCS); Service description, Stage 1 | | SA#14 | | |
| 23.271 | | Functional stage 2 description of LCS | | SA#14 | | |
| 29.002 | | Mobile Application Part (MAP) | | CN#14 | | |
| 43.059 | | Functional Stage 2 Description of Location Services in GERAN | | GERAN 12/01 | | |

11 Work item rapporteurs

Jan Kall., Nokia

12 Work item leadership

TSG SA WG 2.

13 Supporting Companies

Nokia, Elisa Communications, Siemens, Ericsson, Vodafone

14 Classification of the WI (if known)

| | |
|---|----------------------------|
| | Feature (go to 14a) |
| X | Building Block (go to 14b) |
| | Work Task (go to 14c) |

14b The WI covers several Building Blocks: List of Work Tasks under these Building Blocks

| Building block | Work task | WG |
|-------------------------------------|---|-----------|
| LCS support in GERAN PS domain | Specify the system and core network aspects of LCS in the GERAN PS domain | SA2 |
| | Stage 3 specifications to support LCS in GERAN PS domain | CN |
| Event driven deferred LCS request | Investigate and standardize other types of events to initiate location reports | SA2 (SA1) |
| Periodic Location reports | Investigate the implications of generating periodic location reports in MSC/SGSN, RNC or UE | SA2 |
| Standardization of the Le interface | Investigate whether an established Le specification would be applicable for 3GPP LCS, as specified in LCS stage 2 (23.271). | SA2 |
| | Investigate whether an established Le specification would be applicable for 3GPP LCS, as specified in LCS stage 1 (22.071) | SA1 |

| | | |
|---|---|-----------|
| | If seen feasible, the Le work item could be completed by adding references to the established standard for the Le interface in TS 22.071 and TS 23.271. | SA1 & SA2 |
| | Communicate possible needs for alignment or improvement with the corresponding standardization forum. | SA1 & SA2 |
| Enhanced privacy support in location services | Generate Technical Report on Enhanced privacy support in location services | SA2 |
| Relationship between Location Services and the Presence Service | Study the relationship between Location Services and the Presence Service | SA2 |
