An Approach towards Locating a Subscriber in the Network

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ABSTRACT : *To locate a subscriber in the network, it is necessary to keep updating the location of mobile where it is roaming. And the location of the mobile can be identified by tracing the phone number. After tracing the number, the subscriber is fetched in VLR to locate its position. In this approach, the steps for locating the subscriber in the network are explained.*

KEYWORDS : *Mobile Station, Visitor Location Register (VLR), Temporary Mobile Subscriber Identity (TMSI), Location Area Identifier (LAI), Mobile Subscriber ISDN number (MSISDN)*

I. INTRODUCTION

With the rapid growth of crimes nowadays, it is necessary for telecommunication field also to take some steps regarding public safety. As mobiles play an important role in day to day life of all, so they can also be use to solve several issues related to crimes. For this, it should be necessary for the switching department of the network, to keep the estimation of the location of subscriber by tracking it. Location updating is a process for keeping the network informed all the positions of mobile. In the field of telecommunication, to keep the track of phone calls for locating the subscriber comes under the observation of switching department. It is initiated by mobile station. And by using user interface and sql commands mobile phone calls can be traced and location of the subscriber can be identified. All the allowing phone calls, SMS, location and other mobile services can be traced by using them. It shows the activities of mobile subscriber. Call tracing can be continuous or it can be on demand. Therefore, by estimating these parameters, location of any subscriber can be identified and data of activities can be collected and estimated if needed. In this paper, we are showing the same approach in which how the phone call can be traced and how the location of a subscriber can be identified in the network by using sql commands which are fired in user interface.

II. LOCATION UPDATE PROCEDURE

The procedure is used to describe updating the location of subscriber as follows-

- When mobile station is on it continuously monitors the information of location which is broadcast by broadcast channel on the network.
- And then it compares the current information with the previous one which was stored in memory.
- Location of the mobile is identified by tracing the call in which all the services provided for subscriber can be traced.
- When mobile moves from one position to another, and if they find their location code of area is different from the previous, it means they are unknown to the VLR then mobile needs to get a TMSI.
- TMSI is mainly used to keep the identity of the subscriber confidential on radio link.
- Then TMSI combined with LAI for identification outside the area.
- Then subscriber is fetched in VLR to locate the position.

III. PROPOSED APPROACH

To find the location of the subscriber in the network, first step is to trace the number whose location is to be identified. Steps for trace evaluation are as follows-

- To open local maintenance terminal. (Fig.1)
- Select the trace management system from left hand side and click user message trace. Then a pop up window will appear, asking for the MSISDN number.
- Put the number to be traced with 91 in front. Click ok. (Fig.2)
- Then after called upon the number various parameters are considered like initial address message, address complete message, release etc.
- Then according to the requirement various parameters can be traced. (Fig.3)

Trace of a call also provides originating and destination point codes.
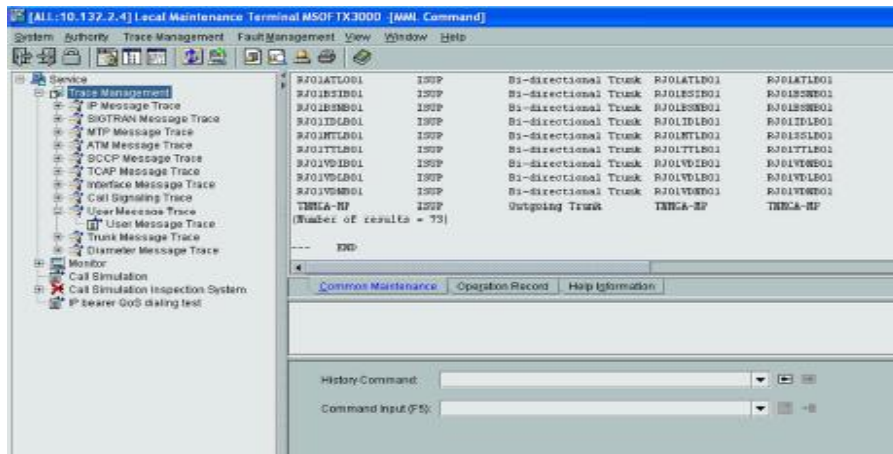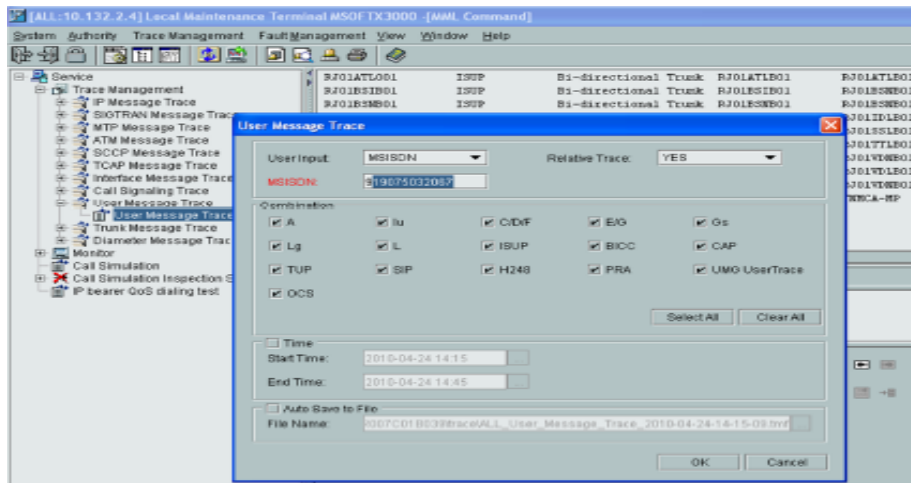

Fig.1 LMT window

Fig.2 User message trace window

Fig.3 Trace Viewer

Then for fetching a user in VLR to locate the subscriber in the network-

- After tracing the number, execute DSP USERINF command in MSC. (Fig. 4)
- After this various parameters are obtained, from which we only need cell ID, it provides the location and address from which the mobile subscriber is getting the services. (Fig.5)
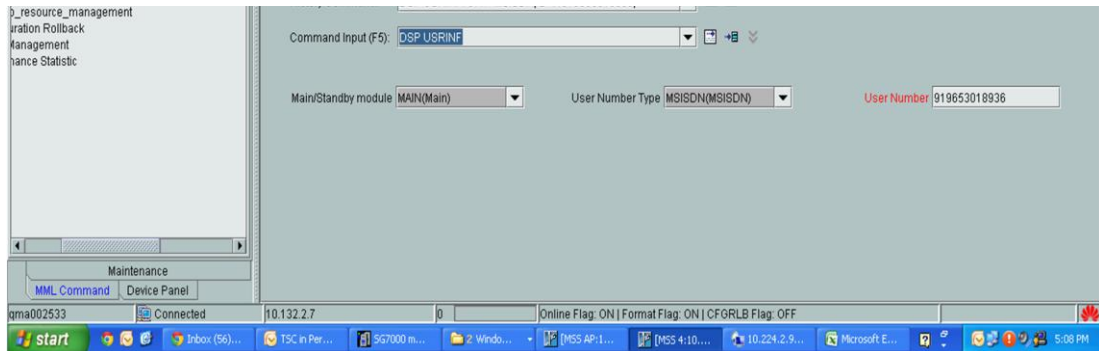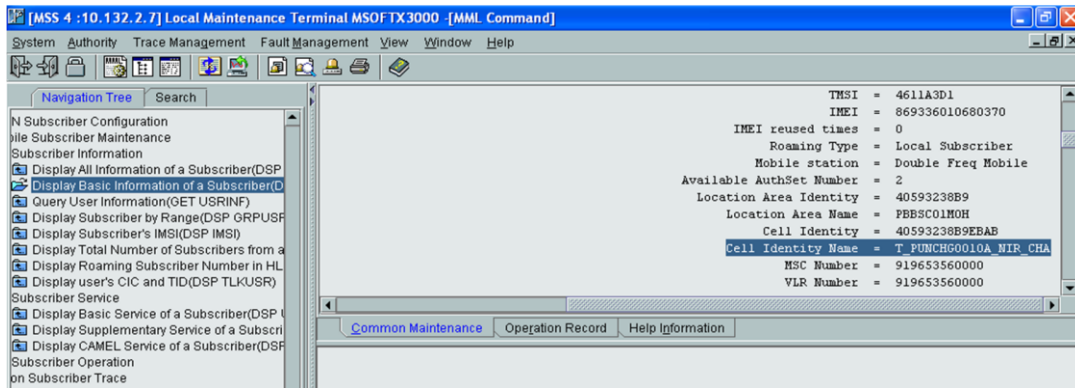

Fig.4 Command Input

Fig.5 Retrieving Cell Id

IV.   CONCLUSION

An approach towards locating a subscriber in the network has been proposed by using sql commands on the user interface. Therefore, this approach can be used to find the exact position of the subscriber by tracing phone calls and also provides all other information

V.   ACKNOWLEDGEMENTS

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