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Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Location Services (LCS);
Supplementary service operations;
Stage 3
(3GPP TS 04.30 version 7.3.0 Release 1998)**

GSM®
GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS

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Reference

RTS/TSGN-040430Q7R3

Keywords

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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Version x.y.z

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- x the first digit:
 - 1 presented to TSG for information;
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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document gives the stage 3 description of the Location Service (LCS) operations for mobile station.

The group of location services operations is divided into two different classes:

- Network initiated location services operations (clause 4);
- Mobile initiated location services operations (clause 5).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.
- For this Release 1998 document, references to GSM documents are for Release 1998 versions (version 7.x.y).

- [1] GSM 01.04: "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 03.71: "Digital cellular telecommunications system (Phase 2+); Location Services (LCS); (Functional description) - Stage 2".
- [3] GSM 04.80: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 supplementary services specification; Formats and coding".

3 Abbreviations

Abbreviations used in the present document are listed in GSM 01.04 and GSM 03.71.

4 Network initiated location services operations

4.1 Location Notification

4.1.1 Normal operation

The network invokes a location notification procedure by sending a REGISTER message containing a LCS-LocationNotification invoke component to the MS. This may be sent either to request verification for MT-LR or to notify about already authorized MT-LR.

In case of privacy verification the MS shall respond to the request by sending a RELEASE COMPLETE message containing the mobile subscriber's response in a return result component (figure 4.1).

If the timer expires in the network before any response from the MS (e.g. due to no response from the user), the network shall interpret this by applying the default treatment defined in GSM 03.71 (i.e. disallow location if barred by subscription and allow location if allowed by subscription).

In the case of location notification no response is required from the MS, the MS shall terminate the dialogue by sending a RELEASE COMPLETE message containing a LocationNotification return result.

If the MS is unable to process the request received from the network, it shall return an error indication by sending a RELEASE COMPLETE message containing a return error component. Error values are specified in GSM 04.80.

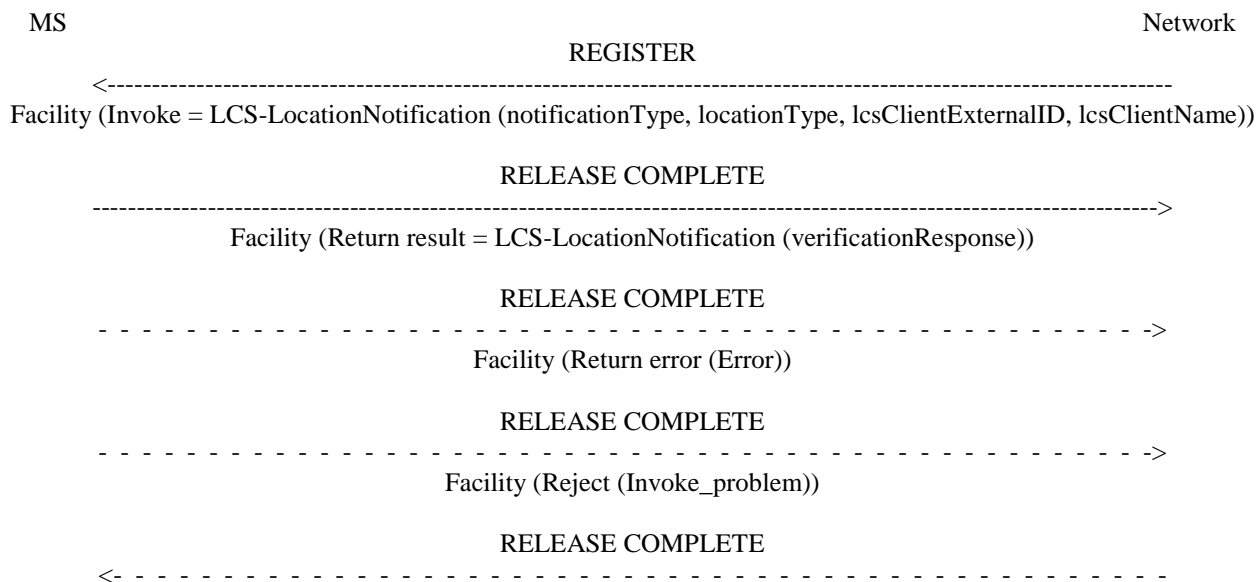


Figure 4.1: Location Notification

5 Mobile initiated location services operations

5.1 Mobile Originated Location Request (MO-LR)

5.1.1 Normal operation

The MS invokes a MO-LR by sending a REGISTER message to the network containing a LCS-MOLR invoke component. SS Version Indicator value 1 or above shall be used.

The receiving network entity shall initiate the handling of location request in the network. The network shall pass the result of the location procedure to the MS by sending a FACILITY message to the MS containing a LCS-MOLR return result component.

The MS may terminate the dialogue by sending a RELEASE COMPLETE message in the case of single location request (see figure 5.1). The MS may also initiate another location request operation by sending a FACILITY message to the network containing a LCS-MOLR invoke component (see figure 5.2). After the last location request operation the MS shall terminate the dialogue by sending a RELEASE COMPLETE message.

If the network is unable to successfully fulfil the request received from the MS (e.g. to provide a location estimate or location assistance information), it shall clear the transaction by sending a RELEASE COMPLETE message containing a return error component. Error values are specified in GSM 04.80.

If the network has returned a result to the MS in a FACILITY message but, after some PLMN administered time period has elapsed, has not received either a new location request operation in a FACILITY message or a RELEASE COMPLETE message from the MS, the network may clear the transaction by sending a RELEASE COMPLETE message.

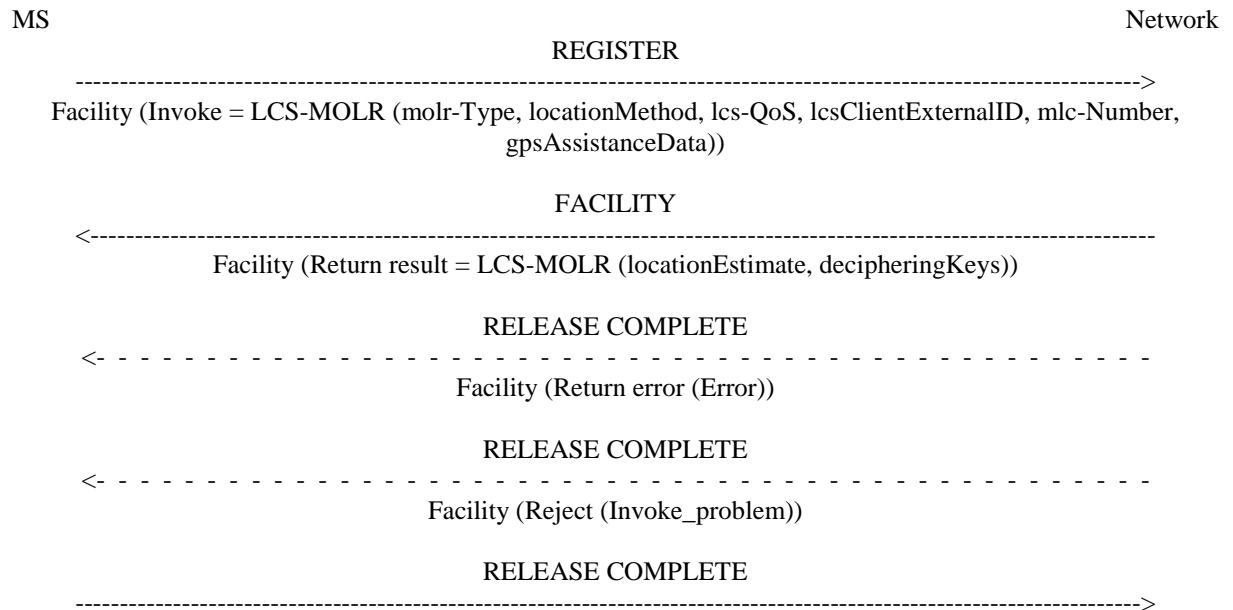


Figure 5.1: Single mobile originated location request

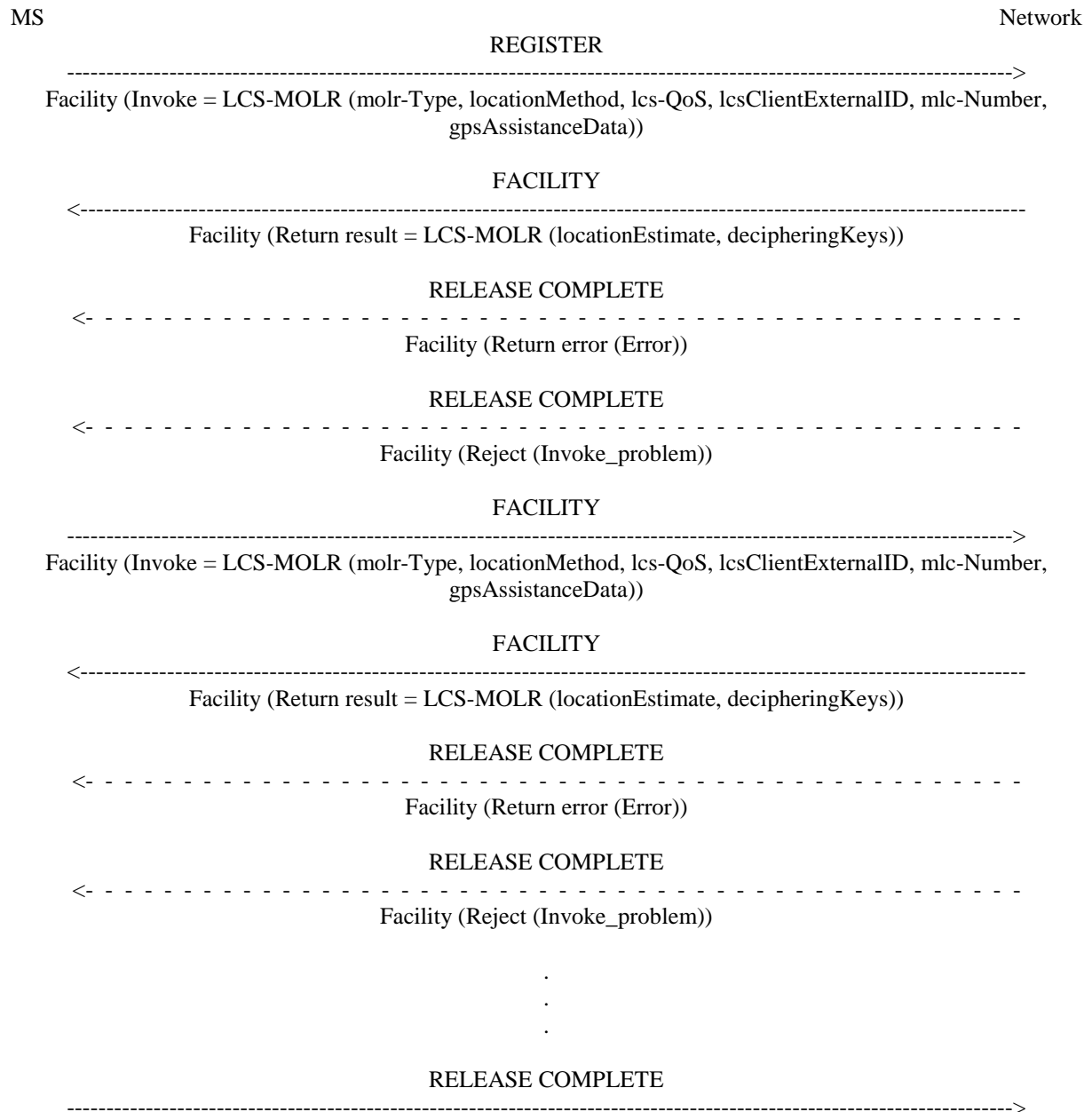


Figure 5.2: Multiple mobile originated location requests

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
	SMG#30 bis				Approved at SMG#30bis as Release 98		7.0.1
	SMG#31		A001		Parameters of the operations in figures 4.1, 5.1 and 5.2 (LCS)	7.0.1	7.1.0
Jun. 2000	CN#08		A002		Correction of MO-LR procedure for LCS	7.1.0	7.2.0
Dec. 2001	CN#14	NP-010613	A003		Specify usage of SS Version Indicator	7.2.0	7.3.0

History

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V7.0.1	January 2000	Publication
V7.1.0	February 2000	Publication
V7.2.0	July 2000	Publication
V7.3.0	December 2001	Publication