



**Digital cellular telecommunications system (Phase 2+);  
Universal Mobile Telecommunications System (UMTS);  
LTE;  
Location management procedures  
(3GPP TS 23.012 version 13.0.0 Release 13)**



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# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	5
1 Scope .....	6
1.1 References .....	6
1.2 Abbreviations .....	7
2 Definitions .....	7
2.1 Location management .....	7
2.2 Location area and MSC area .....	8
2.3 Location area identification.....	8
2.4 IMSI detach/attach operation .....	8
2.4.1 Explicit IMSI detach/attach .....	8
2.4.2 Implicit IMSI detach.....	8
2.5 Use of the term mobile station (MS) in the present document .....	8
2.6 Paging area .....	8
3 General procedures in the network related to Location Management.....	9
3.1 Procedures in the MSC related to Location Updating .....	9
3.2 Procedures in the VLR related to Location Updating .....	9
3.3 Procedures in the HLR related to Location Updating .....	9
3.4 Normal Location Updating and IMSI detach/attach operation.....	9
3.5 IMSI enquiry procedure .....	9
3.6 Information transfer between Visitor and Home Location Registers .....	9
3.6.1 Procedures for location management.....	9
3.6.1.1 Location updating procedure.....	9
3.6.1.2 Downloading of subscriber parameters to the VLR .....	9
3.6.1.3 Location cancellation procedure .....	10
3.6.1.4 Mobile subscriber purging procedure.....	10
3.6.1.5 Support for subscription without MSISDN.....	10
3.7 Overload Protection.....	11
3.7.1 Overview .....	11
3.7.2 Congestion Control during Mobility Management.....	11
3.7.3 Extended periodic LAU Signalling .....	11
3.8 Information transfer between VLR and CSG Subscriber Server.....	12
3.8.1 Procedures for location management.....	12
3.8.1.1 General .....	12
3.8.1.2 Updating VCSG Location procedure .....	12
3.8.1.3 Downloading of VPLMN CSG subscription data to the VLR .....	12
3.8.1.4 VCSG Location cancellation procedure.....	12
4 Detailed Procedures in the network related to Location Management.....	12
4.1 Location Updating.....	12
4.1.1 Detailed procedure in the MSC.....	12
4.1.1.1 Process Update_Location_Area_MSC.....	12
4.1.1.2 Procedure Authenticate_MSC.....	16
4.1.2 Detailed procedure in the VLR .....	17
4.1.2.1 Process Update_Location_Area_VLR .....	17
4.1.2.1a Procedure Retrieve_IMEISV_If_Required .....	21
4.1.2.2 Procedure Authenticate_VLR .....	22
4.1.2.3 Procedure Location_Update_Completion_VLR .....	24
4.1.2.4 Procedure Update_HLR_VLR .....	28
4.1.2.5 Procedure Insert_Subs_Data_VLR .....	29
4.1.2.6 Procedure Activate_Tracing_VLR.....	31
4.1.2.7 Process Send_Identification_PVLR .....	31

4.1.2.8	Process Trace_Subscriber_Activity_VLR .....	34
4.1.2.9	Procedure Perform Relaying .....	34
4.1.2.10	Procedure Update_VCSG_Location_VLR .....	35
4.1.2.11	Procedure Insert_VCSG_Subs_Data_VLR.....	37
4.1.3	Detailed procedure in the HLR .....	38
4.1.3.1	Process Update_Location_HLR.....	38
4.1.3.2	Procedure Insert_Subscriber_Data_HLR.....	43
4.1.3.3	Process Subscriber_Present_HLR.....	45
4.1.3.4	Procedure Control_Tracing_HLR .....	46
4.1.4	Detailed procedure in the CSS .....	46
4.1.4.1	Process Update_VCSG_Location_CSS .....	46
4.1.4.2	Procedure Insert_VCSG_Subs_Data_CSS.....	47
4.2	Location Cancellation.....	50
4.2.1	Detailed procedure in the VLR .....	50
4.2.1.1	Process Cancel_Location_VLR .....	50
4.2.2	Detailed procedure in the HLR .....	53
4.2.2.1	Process Cancel_Location_HLR .....	53
4.2A	VCSG Location Cancellation .....	54
4.2A.1	Detailed procedure in the VLR .....	54
4.2A.1.1	Process Cancel_VCSG Location_VLR.....	54
4.2A.2	Detailed procedure in the CSS .....	56
4.2A.2.1	Process Cancel_VCSG Location.....	56
4.3	Detach IMSI .....	58
4.3.1	Detailed procedure in the MSC.....	58
4.3.1.1	Process Detach_IMSI_MSC .....	58
4.3.2	Detailed procedure in the VLR .....	59
4.3.2.1	Process Detach_IMSI_VLR.....	59
4.4	Purge MS .....	61
4.4.1	Detailed procedure in the VLR .....	61
4.4.1.1	Procedure Purge_MS_VLR .....	61
4.4.2	Detailed procedure in the HLR .....	63
4.4.2.1	Process Purge_MS_HLR .....	63
<b>Annex A (informative):</b>	<b>Change history .....</b>	<b>65</b>
History .....		67

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## Foreword

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# 1 Scope

The present document describes the location management procedures for the circuit switched domain, with respect to the application level functional behaviour. This is to be distinguished from the corresponding protocol handling behaviour, which is specified in 3GPP TS 29.002 [8]. The following location management procedures are included:

- location updating;
- location cancellation;
- MS purging;
- IMSI attach/detach.

The procedures in the Mobile Station (MS) are described in 3GPP TS 23.022 [6]. The procedures between MSC, VLR and HLR utilise the Mobile Application Part (MAP) and details concerning the protocol handling are contained in 3GPP TS 29.002 [8].

The present document excludes location management procedures for the packet switched domain, which are covered in 3GPP TS 23.060 [20].

The descriptions herein depict a logical separation between the MSC and VLR. This logical separation, as well as the messages transferred between the two logical entities are the basis of a model used to define the externally visible behaviour of the MSC/VLR, which may be a single physical entity. They do not impose any requirement except the definition of the externally visible behaviour.

## 1.1 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.
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- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "3G Vocabulary".
- [2] 3GPP TS 23.002: "Network architecture".
- [3] 3GPP TS 23.003: "Numbering, addressing and identification".
- [4] 3GPP TS 23.007: "Restoration procedures".
- [5] 3GPP TS 23.008: "Organization of subscriber data".
- [5a] 3GPP TS 23.018: "Basic call handling; Technical realization".
- [6] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode".
- [7] 3GPP TS 23.116: "Super-Charger Technical Realisation; Stage 2".
- [8] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [9] 3GPP TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".
- [10] 3GPP TS 43.020: "Security related network functions".