3GPP TSG CN Plenary Meeting #17 **NP-020460**
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Title: Location Services Rel-5

Agenda item: 8.9

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.010	067		N4-020954	Rel5	Further clarification of parameter mapping in Location Acquisition procedure	F	5.0.0

4.9.1 Completed Location Acquisition

4.9.1.1 Inter-MSC Handover (GSM to GSM)

After a successful Inter-MSC handover, any positioning request received by the anchor MSC via the MAP message Provide Subscriber Location triggers the BSSMAP procedure Location Acquisition described in 3GPP TS 48.008. For handover this procedure is executed according to GSM 3GPP TS 49.008 with the anchor MSC playing the role of the MSC and the non anchor MSC playing the role of the BSS.

The needed BSSMAP signalling is sent over the E-interface encapsulated in the MAP messages Process Access Signalling and Forward Access Signalling.

At the non anchor MSC the BSSMAP messages received from the anchor MSC are forwarded to the BSS, and the BSSMAP messages received from the BSS are sent over the E-interface to the anchor MSC.

The signalling for a completed Location Acquisition procedure is shown in figures 65a.

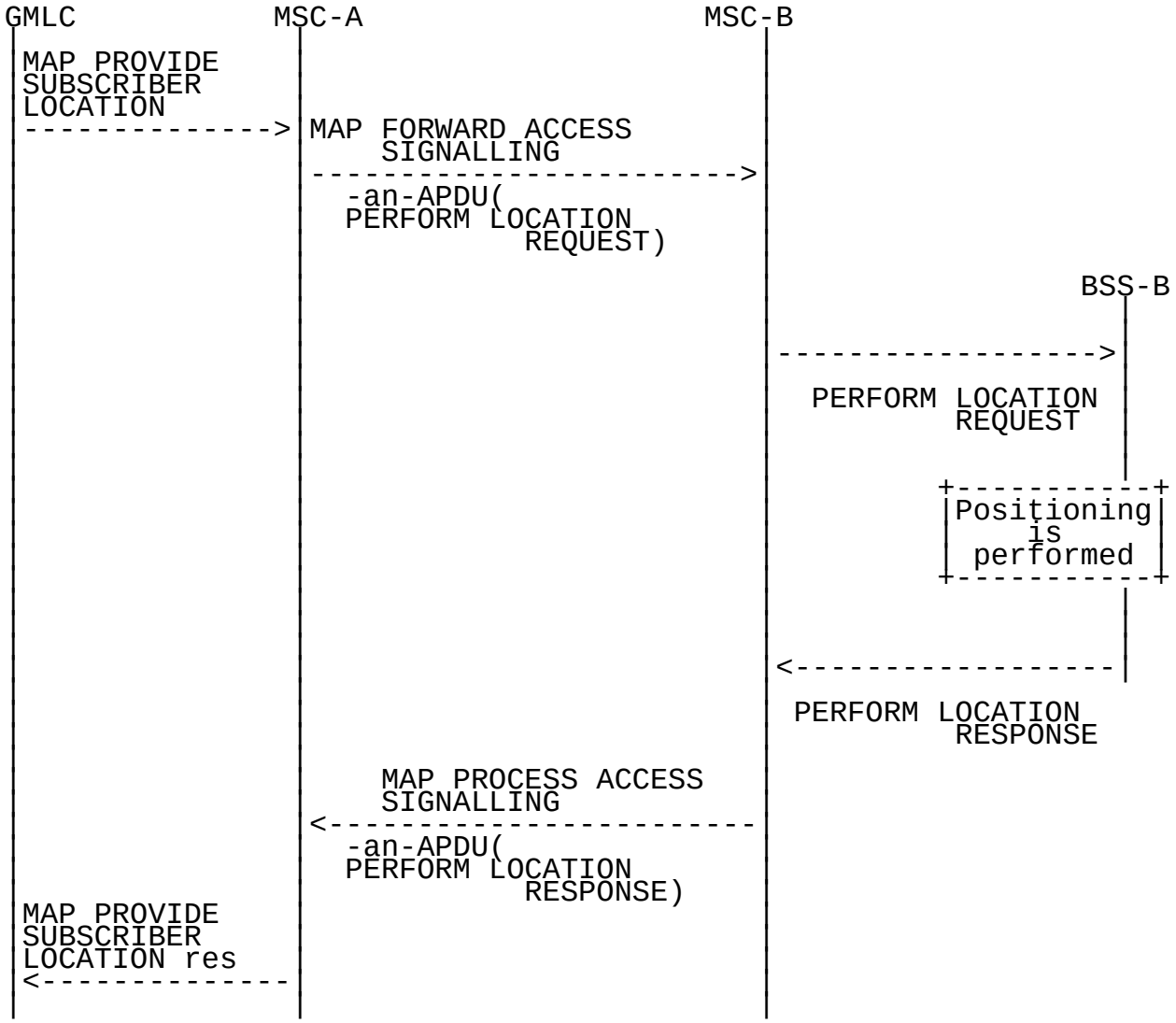


Figure 65a: Signalling for a completed Location Acquisition procedure

After the inter-MSC handover, the MSC-B can perform intra-MSC GSM to UMTS handover. Any positioning request received by the anchor MSC after completion of the intra-MSC GSM to UMTS handover is handled as for Inter-MSC Handover GSM to UMTS (see section 4.9.1.2).

4.9.1.2 Inter-MSC Handover (GSM to UMTS)

After a successful Inter-MSC GSM to UMTS inter system handover, any positioning request received by the anchor MSC via the MAP message Provide Subscriber Location triggers the BSSMAP procedure Location Acquisition described in 3GPP TS 48.008. For handover this procedure is executed according to 3GPP TS 49.008 with the anchor MSC playing the role of the MSC and the non anchor 3G MSC playing the role of the BSS.

The needed BSSMAP signalling is sent over the E-interface encapsulated in the MAP messages Process Access Signalling and Forward Access Signalling.

At the non anchor 3G MSC the BSSMAP messages received from the anchor MSC are mapped into the corresponding RANAP messages to be sent to the RNS, and the received RANAP messages are mapped into the corresponding BSSMAP messages to be sent over the E-interface to the anchor MSC.

The signalling for a completed Location Acquisition procedure is shown in figures 65b.

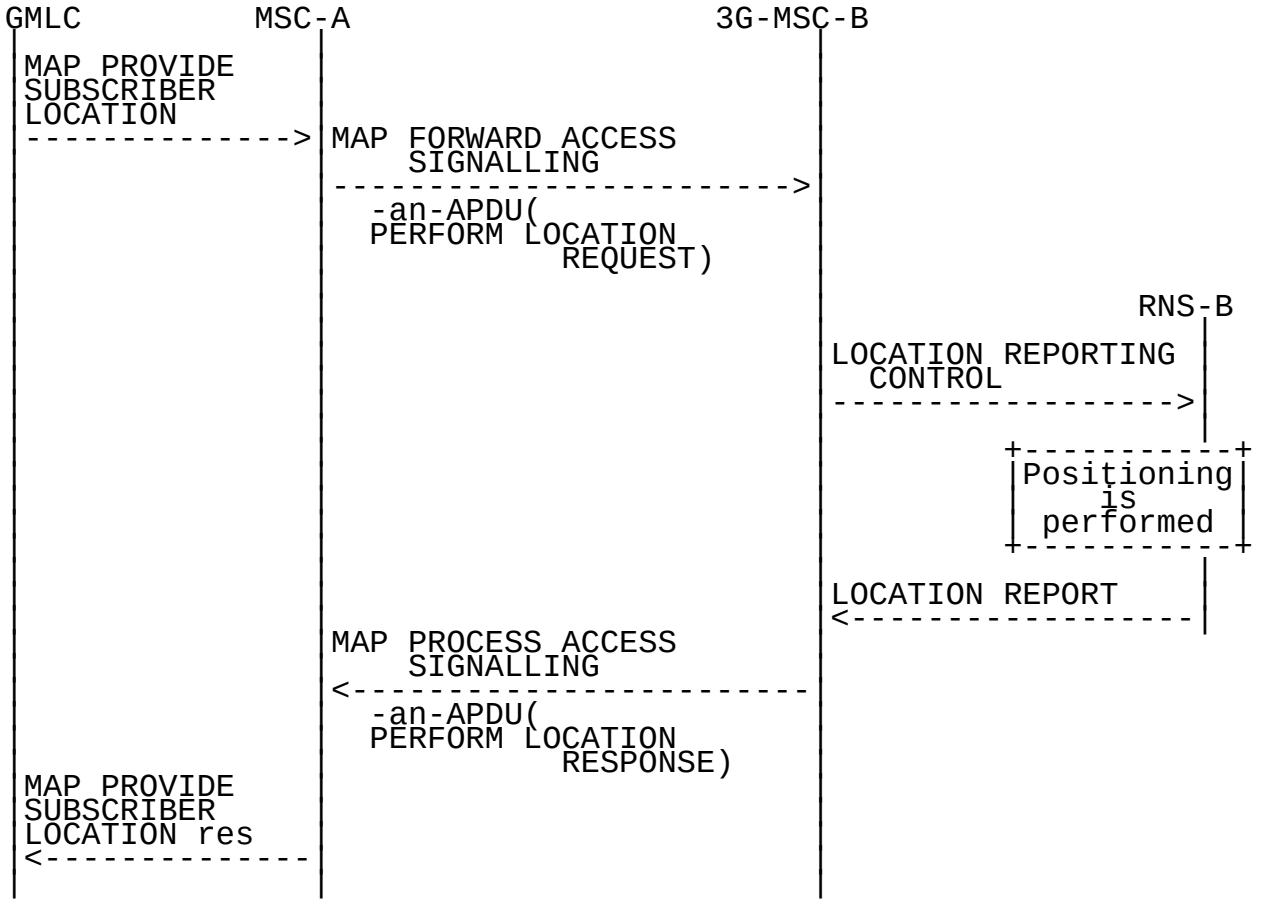


Figure 65b: Signalling for a completed Location Acquisition procedure

The interworking between the BSSMAP location aquisition messages in MAP and the RANAP location reporting messages is as follows:

	29.002	25.413	Notes
Forward message	MAP FORWARD ACCESS SIG. request -an-APDU(PERFORM LOCATION REQUEST)	LOCATION REPORTING CONTROL	
	BSSMAP information elements:	RANAP information elements:	
	Location Type >Current Geographic Location	Request Type >Event = Direct >Report Area = Geo. Coord.	1
	Cell Identifier	----	
	Classmark Inf. Type3	----	
	LCS Client Type	----	
	Chosen Channel	----	
	LCS Priority	----	
	LCS QoS >Horizontal Accuracy	Request Type >Accuracy Code	
	LCS Client Type	Request Type >Client type	
	Chosen Channel	----	
	LCS Priority	Request Type >Positioning Priority	
	LCS QoS >Horizontal Accuracy	Request Type >Horizontal Accuracy Code	
	LCS QoS >Vertical Accuracy	Request Type >Vertical Accuracy Code	
	LCS QoS >Response Time	Request Type >Response Time	
	GPS Assistance Data APDU	----	
Result	MAP PROCESS ACCESS SIG. request -an-APDU(PERFORM LOCATION RESPONSE)	LOCATION REPORT	
	BSSMAP information elements:	RANAP information elements:	
	Location Estimate	Area Identity >Geographical Area	
	Positioning Data	----	
	Deciphering Keys	----	
	LCS Cause	Cause	
	----	Request Type	

NOTE 1: All other Location Type possibilities are not supported by UMTS positioning

After the inter-MSC GSM to UMTS handover, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. Any positioning request received by the anchor MSC after completion of the intra-MSC UMTS to GSM handover is handled as for Inter-MSC Handover GSM to GSM (see section 4.9.1.1).

4.9.1.3 Inter-MSC Handover (UMTS to GSM)

After a successful Inter-MSC UMTS to GSM inter system handover, any positioning request received by the anchor 3G-MSC via the MAP message Provide Subscriber Location triggers the BSSMAP procedure Location Acquisition described

in 3GPP TS 48.008. For handover this procedure is executed according to 3GPP TS 49.008 with the anchor 3G-MSC playing the role of the 3G-MSC and the non anchor MSC playing the role of the BSS.

The needed BSSMAP signalling is sent over the E-interface encapsulated in the MAP messages Process Access Signalling and Forward Access Signalling.

At the non anchor MSC the BSSMAP messages received from the anchor 3G-MSC are forwarded to the BSS, and the BSSMAP messages received from the BSS are sent over the E-interface to the anchor 3G-MSC.

The signalling for a completed Location Acquisition procedure is shown in figures 65c.

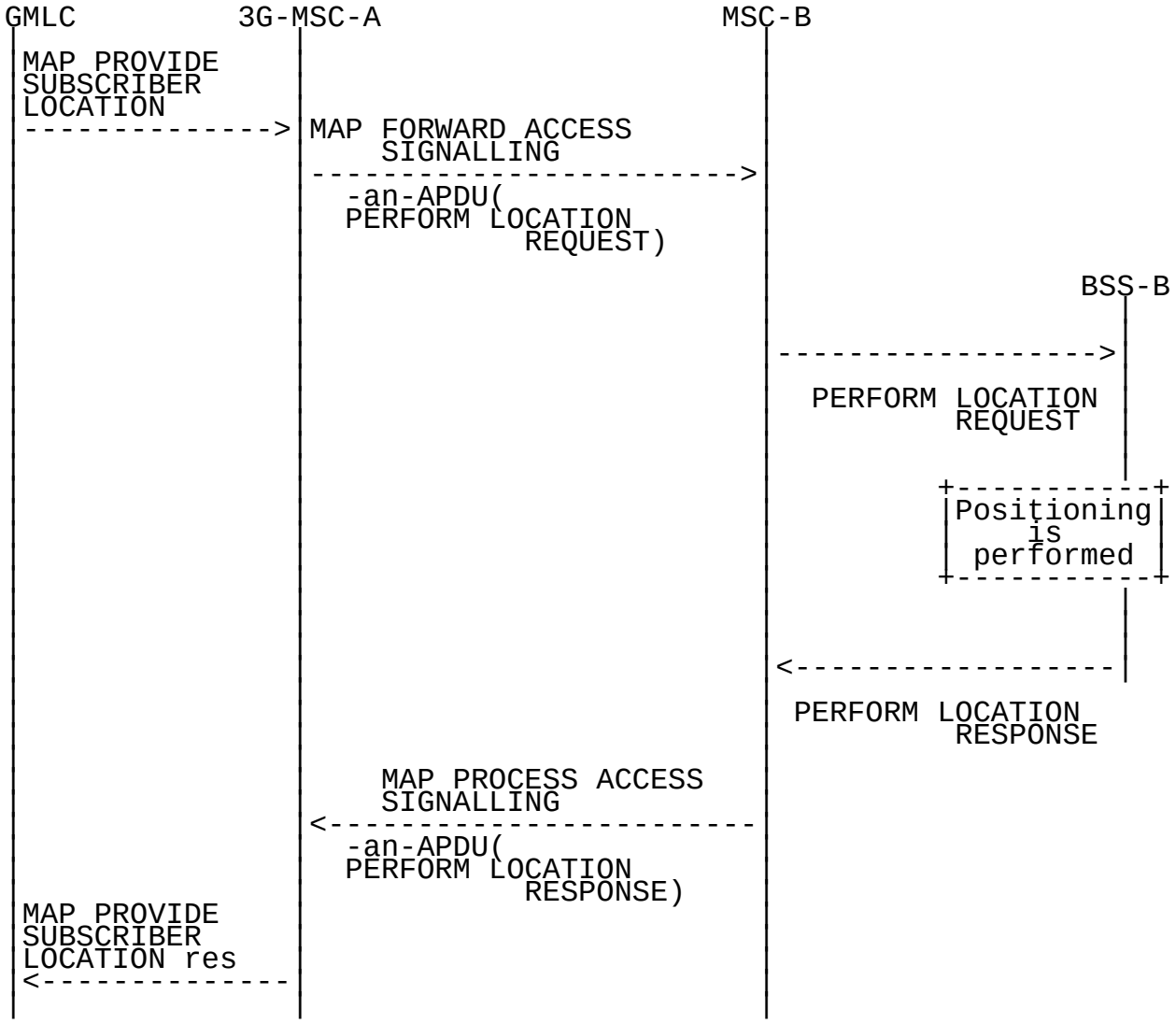


Figure 65c: Signalling for a completed Location Acquisition procedure

After the inter-MSC UMTS to GSM handover, the 3G MSC-B can perform intra-MSC GSM to UMTS handover. Any positioning request received by the anchor 3G MSC after completion of the intra-MSC GSM to UMTS handover is handled as for Inter-MSC Handover GSM to UMTS (see section 4.9.1.2).

4.9.1.4 Inter-MSC SRNS Relocation

After a successful Inter-MSC SRNS Relocation, any positioning request received by the anchor 3G-MSC via the MAP message Provide Subscriber Location triggers the RANAP procedure Location Reporting Control described in TS 25.413. For handover this procedure is executed according to 23.009 with the anchor 3G-MSC playing the role of the 3G-MSC and the non anchor 3G-MSC playing the role of the RNS.

The needed RANAP signalling is sent over the E-interface encapsulated in the MAP messages Process Access Signalling and Forward Access Signalling.

At the non anchor 3G-MSC the RANAP messages received from the anchor 3G-MSC are forwarded to the RNS, and the RANAPmessages received from the RNS are sent over the E-interface to the anchor 3G-MSC.

The signalling for a completed Location Acquisition procedure is shown in figures 65d.

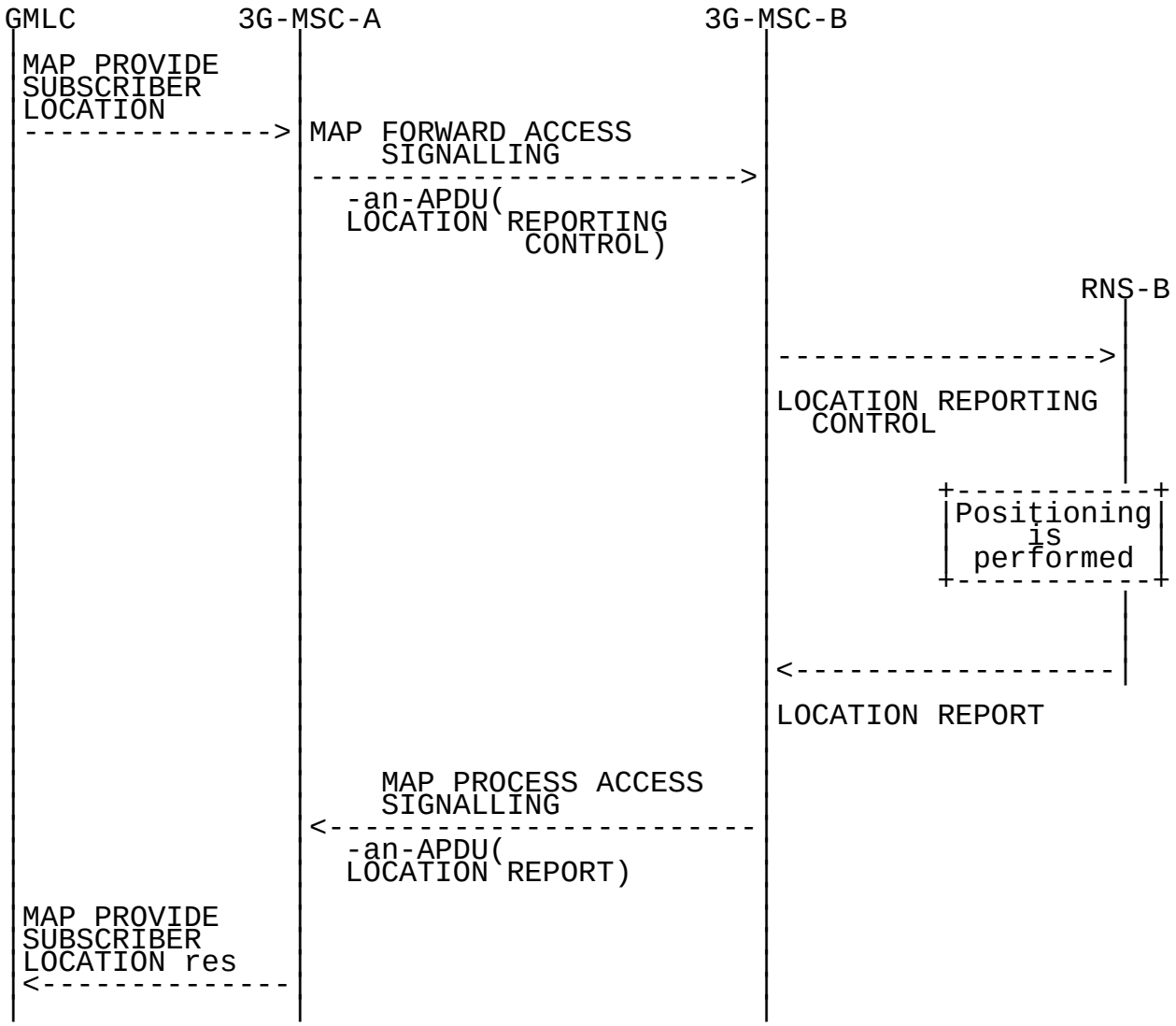


Figure 65d: Signalling for a completed Location Acquisition procedure

After the inter-MSC SRNS Relocation, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. Any positioning request received by the anchor 3G MSC after completion of the intra-MSC UMTS to GSM requires that at the non anchor 3G MSC the received RANAP messages are mapped into the corresponding BSSMAP messages to be sent to the BSS, and the received BSSMAP messages are mapped into the corresponding RANAP messages to be sent over the E-interface to the anchor 3G-MSC.

The signalling for a completed Location Acquisition procedure is shown in figures 65e.

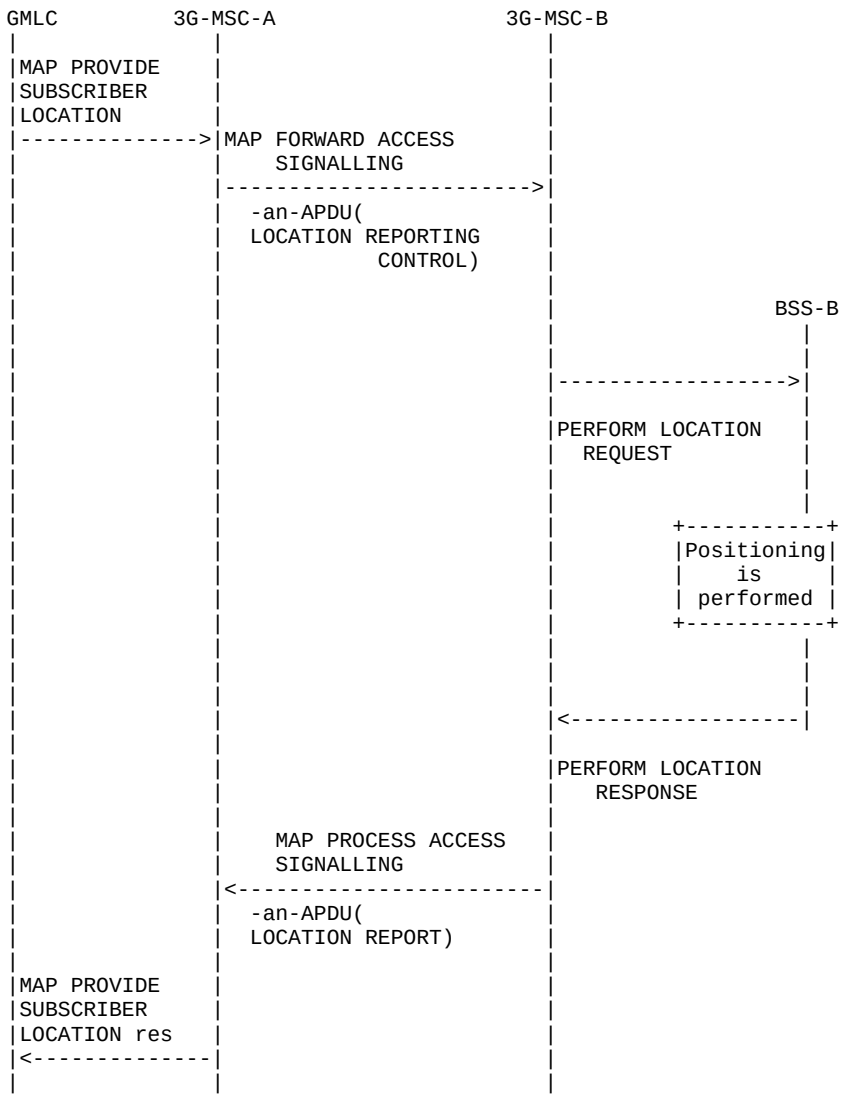
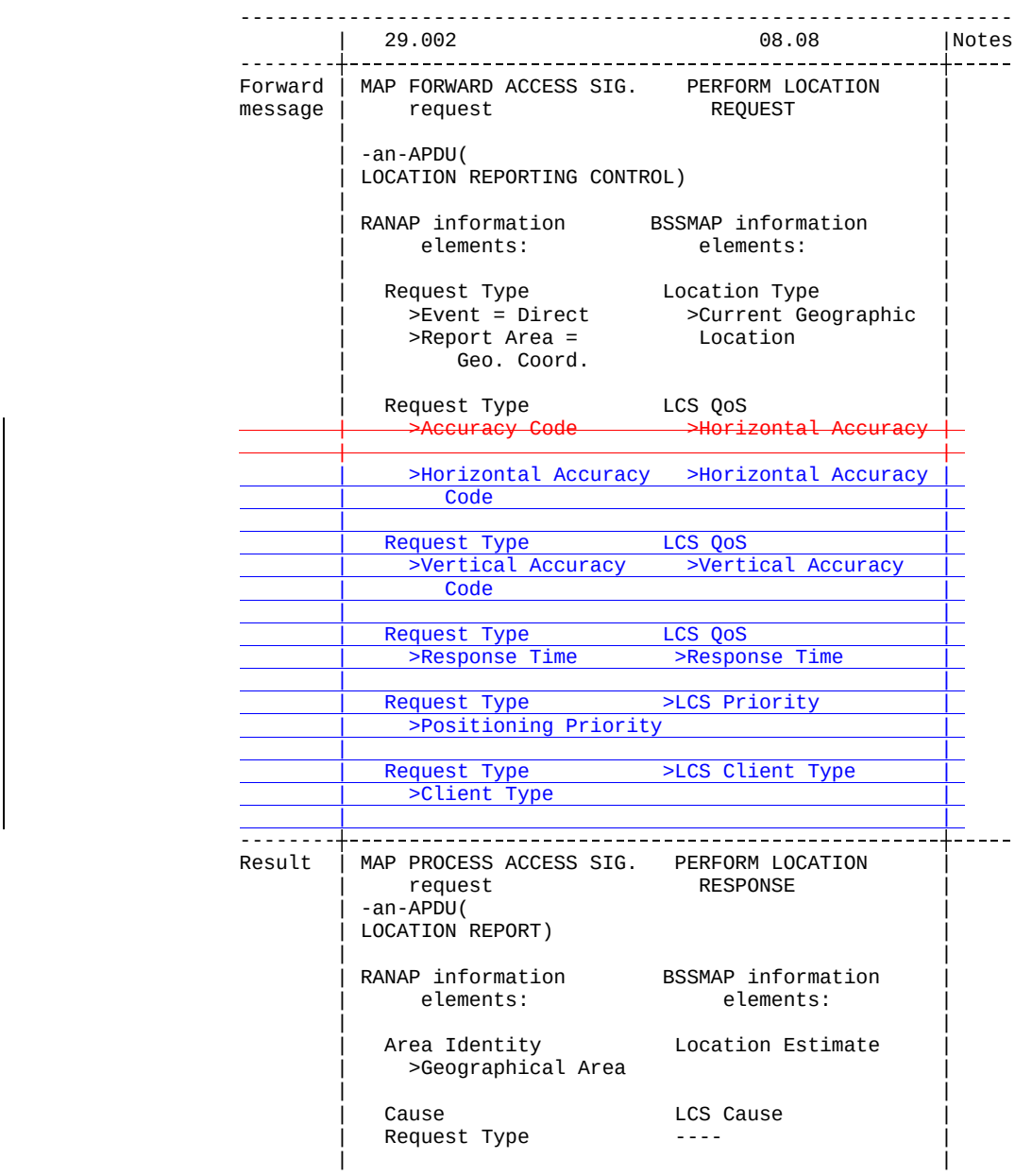


Figure 65e: Signalling for a completed Location Acquisition procedure

the interworking between the RANAP messages encapsulated in MAP and the BSSMAP messages is as follows:


29.002
08.08
Notes
Forward message
MAP FORWARD ACCESS SIG. request
PERFORM LOCATION REQUEST
-an-APDU(LOCATION REPORTING CONTROL)
RANAP information elements:
BSSMAP information elements:
Request Type
>Event = Direct
>Report Area = Geo. Coord.
Location Type
>Current Geographic Location
Request Type
>Accuracy Code
LCS QoS
>Horizontal Accuracy
>Horizontal Accuracy Code
>Horizontal Accuracy
>Horizontal Accuracy Code
Request Type
>Vertical Accuracy
>Vertical Accuracy Code
Request Type
>Response Time
LCS QoS
>Response Time
Request Type
>Positioning Priority
>LCS Priority
Request Type
>Client Type
>LCS Client Type
Result
MAP PROCESS ACCESS SIG. request
PERFORM LOCATION RESPONSE
-an-APDU(LOCATION REPORT)
RANAP information elements:
BSSMAP information elements:
Area Identity
>Geographical Area
Location Estimate
Cause
Request Type
LCS Cause
