3GPP TSG-SA WG2 Meeting #160
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TEI19 Discussion on Efficient Procedure for enabling Deferred 5GC-MT-LR Procedure for Periodic Location Reports

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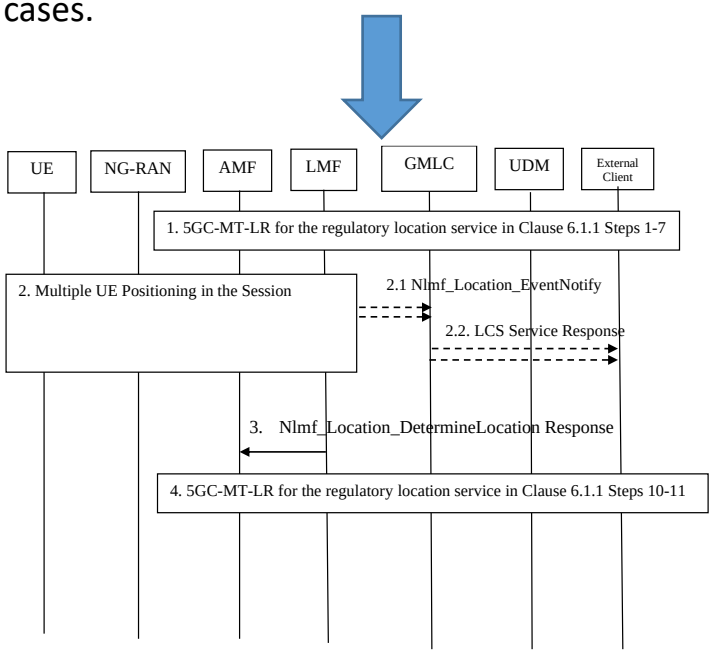
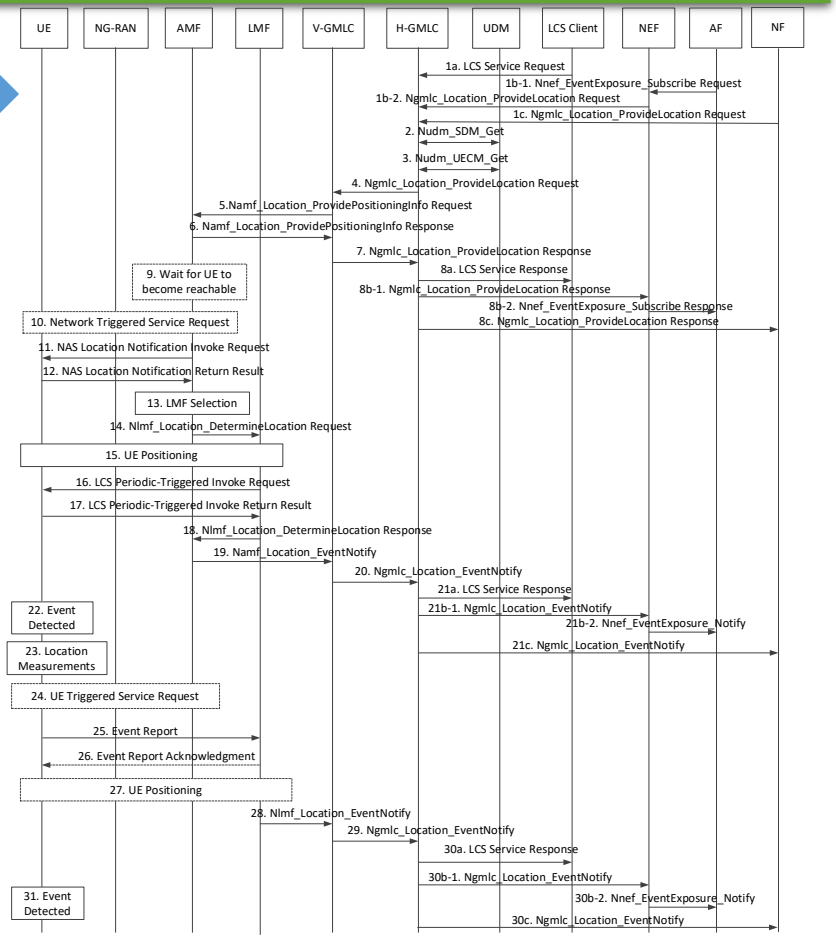
Introduction

- In Rel-16 Deferred 5GC-MT-LR Procedure for Periodic, Triggered and UE Available Location Events has been defined in clause 6.3 of TS 23.273.
- In Rel-18 5GC-MT-LR multiple location procedure for the regulatory location service has been introduced in clause 6.1.3 of TS 23.273 providing a less complex periodic/multiple location estimate targeting only regulatory use cases.





Motivation

- It would be beneficial to have a less complex 3gpp procedure for periodic location event as an alternative procedure for commercial use cases as well.

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TEI19 objective and Expected enhancement

- OBJECTIVE: introduce an efficient, less complex Deferred 5GC-MT-LR Procedure for Periodic Location Report leveraging already RAN defined NRPPa periodic measurement report and LPP periodic reporting for commercial use cases.
- LMF based on UE capabilities would decide to initiate Periodic Measurement Request toward NG-RAN using NRPPa or initiate lpp periodical Reporting towards UE by the required periodicity.
- LMF would use periodically received measurements or locations estimates to forward location estimates to GMLC using Nlmf_Location_EventNotify.
- No impact expected on RAN
- Expected TU: 0.5
- Impacted Spec: TS 23.273

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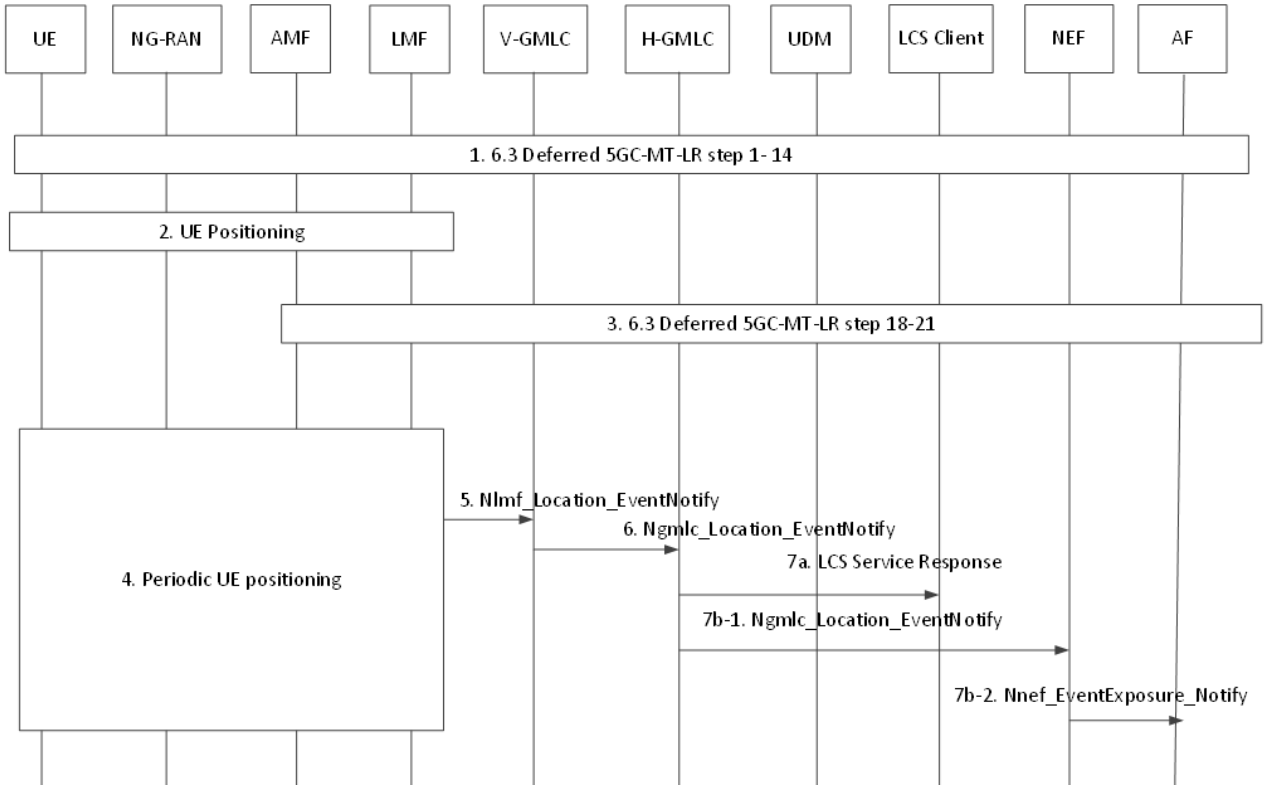
Potential solution may look like



1. Deferred 5GC-MT-LR steps 1-13 are executed as described in clause 6.1.1. AF or LCS clients triggers periodic location event. The LCS Service Request provides periodic location reporting type and the time interval between successive location reports, the total number of reports.

2. LMF performs one or more of the positioning procedures as it is described in step 15 in clause 6.1.1.

3. Deferred 5GC-MT-LR steps 18-21 are executed as described in clause 6.1.1.

4. LMF based on UE capability information received in step 2 decides to perform NRPPa Periodic Measurement Request (based on 6.11.2) or/and lpp periodical Reporting (based on 6.11.1). LMF uses the time interval between successive location reports, the total number of reports received in step 1. LMF periodically receives location estimates or measurement from UE via lpp or periodically receive measurements from NG-RAN via NRPPa. Location related measurements used by LMF to calculate location estimates.

5. LMF invokes Nlmf_Location_EventNotify service operation as described in step 28 in clause 6.1.1 in order to transfer location information to VGMLC or (H)GMLC periodically.

6. Deferred 5GC-MT-LR steps 29 is executed as described in clause 6.1.1.

7a.: Deferred 5GC-MT-LR steps 30a is executed as described in clause 6.1.1.

7b-1: Deferred 5GC-MT-LR steps 30b-1 is executed as described in clause 6.1.1.

7b-2: Deferred 5GC-MT-LR steps 30b-2 is executed as described in clause 6.1.1.

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Thank you!

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