**3GPP TSG-SA WG6 Meeting #37-e S6-200640**

**e-meeting, 14th – 26th May 2020 (revision of S6-xxxxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Cancel location history transmission | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | BDBOS, BMWi | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh3MCPTT | | | | |  | ***Date:*** | | | 2020-05-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Currently existing information flows and procedures do not support the on-demand request or automatic transmission of locally stored, but triggered location reports of an MC service user after returning from off-network operation. During the transmission of the locally stored location reports the cancellation of such transmission is required, e.g. during channel congestion.  [R-5.11-009] in 3GPP TS 22.280 in clause 5.11 for on-network and off-network location reports based on triggered events.  Clause 7.1 in 3GPP TS 22.280 describes in general that MC services available during off-network are functional comparable to MC services during on-network and this includes location management, as an essential feature of MC communication. While triggered location reports are available during on-network operation, the same or modified off-network triggers allow such MC service continuity while off-network operation. The location reports provided after returning to on-network operation.  Functional support for use case #5, solutions #6, #7 and #8 discussed in 3GPP TR 23.744. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | New information flow and new procedure for the cancellation request of locally stored location reports after returning to on-network operation. New information flow to report the current status of locally stored location reports. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The operational analysis of location information triggered during off-network operation cannot be included into operative-tactical decisions after returning to on-network operation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.9.2.11 (new), 10.9.2.14 (new), 10.9.2.15 (new), 10.9.3.9.1 (new), 10.9.3.9.2 (new), 10.9.3.9.3 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.280 CR 0253, 0254 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

#### 10.9.2.11 Location information history status report

The location management client stored location information, while not reporting location information to the location management server, and subsequently the reporting may start following the reestablishment of a communication link between the location management client and the location management server.

Table 10.9.2.11-1 describes the information flow from the location management client to the location management server to report the status of stored location information.

Table 10.9.2.11-1: Location information history status report (LMC – LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list | M | List of identities (e.g. MCPTT ID, MCData ID, MCVideo ID) of the MC service user who reports the status |
| Number of stored reports | O | Indicates either zero or the number of available reports |
| Start time | O | First time of measurement of the available reports |
| End time | O | Last time of measurement of the available reports |
| Triggered event list (see NOTE) | M | Identifies the criteria when the location management client generated location information, while not reporting location information |
| NOTE: Each triggered criterion is shown once with either the associated Number of stored reports, or with the associated Start time, or with the associated Start time and End time or with the associated End time. | | |

Table 10.9.2.11-2 describes the information flow from the location management server to the location management client to report the status of stored location information.

Table 10.9.2.11-2: Location information history status report (LMS – LMC)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the MC service user who reports the status |
| MC service ID | M | Identity of the MC service user to receive the status report |
| Number of stored reports | O | Indicates either zero or the number of available reports |
| Start time | O | First time of measurement of the available reports |
| End time | O | Last time of measurement of the available reports |
| Triggered event list (see NOTE) | M | Identifies the criteria when the location management client generated location information, while not reporting location information |
| NOTE: Each triggered criterion is shown once with either the associated Number of stored reports, or with the associated Start time, or with the associated Start time and End time or with the associated End time. | | |

Table 10.9.2.11-3 describes the information flow from the location management server to the MC service server to report the status of stored location information.

Table 10.9.2.11-3: Location information history status report (LMS - MC service server)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the MC service user who reports the status |
| Number of stored reports | O | Indicates either zero or the number of available reports |
| Start time | O | First time of measurement of the available reports |
| End time | O | Last time of measurement of the available reports |
| Triggered event list (see NOTE) | M | Identifies the criteria when the location management client generated location information, while not reporting location information |
| NOTE: Each triggered criterion is shown once with either the associated Number of stored reports, or with the associated Start time, or with the associated Start time and End time or with the associated End time. | | |

\* \* \* Next Change \* \* \* \*

#### 10.9.2.14 Location information history cancel request

Table 10.9.2.14-1 describes the information flow from the location management client to the location management server for the cancellation request of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.14-1: Location information history cancel request (LMC – LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the reporting MC service user |
| MC service ID | M | Identity of the MC service user, who has requested the cancellation |
| Cancellation ID | O | Identity of the type of cancellation (e.g. from reporting LMC, from LMS, from LMC and LMS) |

Table 10.9.2.14-2 describes the information flow from the location management server to the location management client for the cancellation request of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.14-2: Location information history cancel request (LMS – LMC)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the reporting MC service user |

Table 10.9.2.14-3 describes the information flow from the MC service server to the location management server for the cancellation request of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.14-3: Location information history cancel request (MC service server - LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the reporting MC service user |
| MC service ID | O | Identity of the MC service user, who has requested the cancellation |

\* \* \* Next Change \* \* \* \*

#### 10.9.2.15 Location information history cancel response

Table 10.9.2.15-1 describes the information flow from the location management client to the location management server for the cancellation response of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.15-1: Location information history cancel response (LMC – LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list | M | List of identities (e.g. MCPTT ID, MCData ID, MCVideo ID) of the reporting MC service user |

Table 10.9.2.15-2 describes the information flow from the location management server to the location management client for the cancellation response of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.15-2: Location information history cancel response (LMS – LMC)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the reporting MC service user |
| Report | M | Confirm cancellation from reporting LMC, from LMS or from reporting LMC and LMS |

Table 10.9.2.15-3 describes the information flow from the MC service server to the location management server for the cancellation response of location information history reporting, while reporting stored location information to the location management server.

Table 10.9.2.15-3: Location information history cancel response (LMS - MC service server)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID | M | Identity of the reporting MC service user |

\* \* \* Next Change \* \* \* \*

##### 10.9.3.9.4 Usage of cancel location history reporting procedure

###### 10.9.3.9.4.1 General

The location management server can request cancellation of the transmission of location information history reports at any time following the start of transmission by sending a location information history cancel request to the reporting location management client. The MC service server or location management client could initiate the cancellation request, if those entities are aware of ongoing location information history reporting. The transmission cancellation does not have any effect on the configured triggering criteria in emergency cases, triggering criteria in non-emergency cases nor on the triggering criteria in not reporting location information cases.

###### 10.9.3.9.4.2 Cancel location history reporting procedure (LMS – LMC)

Figure 10.9.3.9.4.2-1 illustrates the procedure for the on-demand based usage of the cancellation on location history reporting from the location management client to the location management server.

Pre-conditions:

1. The location management client has returned to report location information and has stored location information reports while not reporting location information to the location management server.



Figure 10.9.3.9.4.2-1: On-demand based usage of location history cancel procedure (LMS – LMC)

1. The location management client transmits stored location information.

2. The location management server requests the cancellation of the location information history reporting at any time during the transmission.

3. Location management client cancels the location information history reporting.

4. Location management client confirms the executed cancellation request.

###### 10.9.3.9.4.3 Cancel location history reporting procedure

Figure 10.9.3.9.3-1 illustrates the procedure for the on-demand based usage of the cancellation on location history reporting from the MC service server or location management client to the location management server.

Pre-conditions:

1. The location management client 1 has returned to report location information and has stored location information reports, while not reporting location information to the location management server.



Figure 10.9.3.9.3-1: On-demand based usage of location history cancel procedure

1. The location management client 1 transmits stored location information.

2. The MC service server or location management client 2 requests the cancellation of the location information history reporting at any time during the transmission.

3. The location management server checks the authorization of this request and decides either to cancel the transmission from the reporting location management client 1, to stop the transmission from the location management server or to cancel/stop the transmission from both.

4. The location management server executes the requested cancellation.

5. Location management server confirms the executed cancellation.

\* \* \* End of Change \* \* \* \*