**3GPP TSG-SA WG6 Meeting #37-e S6-200642**

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

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.280** | **CR** | **0254** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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:*** | On-demand location history reporting | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | BDBOS, BMWi, KRRI | | | | | | | | | |
| ***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 of locally stored location reports of an MC service user after returning from off-network operation.  [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.  Use case #5, solutions #6 and #7 discussed in 3GPP TR 23.744. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | New information flow and new procedure for the on-demand request of locally stored location reports after returning to on-network operation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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:*** | | 10.9.2.12 (new), 10.9.3.9.3 (new), 10.9.2.15 (new), 10.9.3.9.5 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.280 CR 0252, 0253 | | |
| ***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 \* \* \* \*

#### 10.9.2.12 Location information history request

Table 10.9.2.12-1 describes the information flow from the MC service server or location management client to the location management server and from the location management server to the location management client for the location history requesting of location reports locally stored during off-network operation and after returning to on-network operation.

Table 10.9.2.12-1: Location information history request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list (see NOTE 1) | M | List of identities (e.g. MCPTT ID, MCData ID, MCVideo ID) of the MC service user from whom reports are requested |
| Number of stored reports (see NOTE 2) | O | Indicates the number of requested reports |
| Start time (see NOTE 2) | O | Indicates to send reports having this start time and newer |
| End time (see NOTE 2) | O | Indicates to send reports having this end time and older |
| Triggered event list (see NOTE 2) | O | Indicates to send reports triggered by the list of triggered events |
| Minimum time between consecutive reports | O | Defaults to 0 if absent |
| NOTE 1: The MC service server may only use the MC service ID according to the MC service.  NOTE 2: If none of these information elements is present, all stored location information reports shall be reported. Information elements can be combined to request a subset of the available reports. | | |

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

##### 10.9.3.9.3 On-demand location history reporting procedure

The location management server can request off-network location information reports at any time by sending a Location information history request to the location management client, after the location management client has returned from off-network operation and during on-network operation.

Figure 10.9.3.9.3-1 illustrates the procedure for the on-demand based usage of location history reporting.

Pre-conditions:

1. The location management client 1 is configured to locally store off-network location information report while in off-network operation.

2. The location management client 1 has locally stored off-network location information reports based on triggered events and while in off-network operation.

3. The location management server may have none, a subset or all available off-network location information reports from location management client 1.



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

1. The location management client 1 enters on-network operation, establishes connection to the location management server and enters the state to transmit location information reports.

2. The MC service server or the location management client 2 may request the status on locally stored off-network location information reports from location management client 1, prior to the history request and as described in clause 10.9.3.9.5. The MC service server or the location management client 2 initiate the location information history request to the location management server.

3. The location management server checks the authorization of this request and compares the location information history request with the already retrieved off-network location information reports.

4. The location management server forwards the location information history request to the location management client 1, if the desired off-network location information reports are not available on the location management server.

5. The location management client 1 responds to the location management server with one or several off-network location information reports.

NOTE 1: The transmission of requested off-network location information reports does not interrupt the on-network location information reports.

NOTE 2: The last stored off-network location information report is transmitted first.

NOTE 3: The transmission may be stopped at any time with the Cancel location history reporting procedure, as described in clause 10.9.3.9.4.

6. The location management server updates the available location information with one or several off-network location information reports, if the location management server has requested off-network location information reports.

7. The location management server forwards the requested off-network location information reports to the MC service server or location management client 2.

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

#### 10.9.2.15 Location information history status request

Table 10.9.2.15-1 describes the information flow from the MC service server or location management client to the location management server and from the location management server to the reporting location management client to request the status of location reports locally stored during off-network operation, following a return to on-network operation.

Table 10.9.2.15-1: Location information history status request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list (see NOTE 1) | M | List of identities of (e.g. MCPTT ID, MCData ID, MCVideo ID) of the MC service user from whom status is requested |
| MC service ID (see NOTE 2) | O | Identity of the MC service user, who has requested the status |
| NOTE 1: The MC service server may only use the MC service ID according to the MC service.  NOTE 2: Only present from the location management client to the location management server. | | |

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

##### 10.9.3.9.5 Status location history reporting procedure

The location management server can request the status of location information history reports at any time by sending a location information history status request. The MC service server or location management client could initiate the status request.

Figure 10.9.3.9.5-1 illustrates the procedure for the on-demand based usage of the status requesting from location management client.



Figure 10.9.3.9.5-1: On-demand based usage of location history status procedure

1. The MC service server or location management client 2 requests the status of the locally stored off-network location information reports.
2. The location management server checks the authorization of this request.
3. The location management server forwards the status request to the location management client 1.
4. The location management client 1 respondes with the status report of the locally stored off-network location information reports.
5. The location management server forwards this information to the MC service server or location management client 2.

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