**3GPP TSG-SA WG6 Meeting #39-e S6-201358**

**e-meeting, 31st August – 8th September 2020 (revision of S6-xxxxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **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:*** | Sharing location information across MC systems (on-demand) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | BDBOS | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh3MCPTT | | | | |  | ***Date:*** | | | 2020-09-02 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | Sharing of location information across MC systems in either the same security domain or different security domains currently not described.  3GPP TS 22.280: *“…[R-6.17.2-004] An MCX Service shall provide mechanisms to allow an MCX User on the Primary MCX Service System to affiliate and communicate in an MCX Service Group from a Partner MCX Service System, subject to authorization from the Primary MCX Service System and the Partner MCX Service System where the MCX Service Group is defined…*.” | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | New information flows and procedures | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Interconnected systems lack of support to handle on-demand location information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.9.2.17 (NEW), 10.9.2.18 (NEW),10.9.3.10 (NEW),10.9.3.10.1 (NEW),10.9.3.10.2 (NEW) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.280 CR 0263, 0266 | | |
| ***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 \* \* \* \*

#### 10.9.2.17 Location information request (LMS – LMS)

Table 10.9.2.17-1 describes the information flow from the location management server in the primary MC system to the other location management server in the partner MC system for the location information requesting across MC systems.

Table 10.9.2.17-1: Location information request (LMS – LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list | M | List of identities of the MC service users (e.g. MCPTT ID, MCData ID, MCVideo ID) in the partner MC system whose location information are requested |

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

#### 10.9.2.18 Location information report (LMS – LMS)

Table 10.9.2.18-1 describes the information flow from the location management server in the partner MC system to the location management server in the primary MC system for location information reporting across MC systems.

Table 10.9.2.18-1: Location information report (LMS – LMS)

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| MC service ID list | M | List of identities of reporting MC service users (e.g. MCPTT ID, MCData ID, MCVideo ID) in the partner MC system |
| Triggering event | M | Identity of the event that triggered the sending of the report |
| Location Information (see NOTE) | M | Location information of the individual MC service user |
| NOTE: This may contain multiple sets of elements for the MC service user. The following elements shall accompany the location information elements: time of measurement and optional accuracy. The following location information elements shall be optional (configurable) present: longitude, latitude, speed, bearing, altitude, ECGI, MBMS SAIs, with at least one provided. | | |

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

#### 10.9.3.10 Usage of location information across MC systems procedure

##### 10.9.3.10.1 General

Interconnected MC systems in either the same security domain or different security domains share location information either through the direct connection of the location management servers or through the connected MC gateway servers.

##### 10.9.3.10.2 On-demand request of location information procedure

The MC service server or location management client in the primary MC system can request MC service user's location information, which is in the partner MC system, at any time by sending a location information request to the location management server at primary MC system.

Figure 10.9.3.10.2-1 illustrates the high level procedure of on-demand request of location information.

Pre-conditions:

- The MC service server or the location management client at primary MC system is in possession of the MC service ID or list of MC service IDs of a MC service user at partner MC system, e.g. through the group configuration data described in clause 10.1.5.4 of the present document.



Figure 10.9.3.10.2-1: On-demand request of location information procedure

1. The MC service server or a location management client in the primary MC system requests on-demand location information of MC service user located in the partner MC system.

2. The location management server in the primary MC system checks if the MC service user in the primary MC system is authorized to request on-demand location information of the target MC service user in the partner MC system.

3. The location management server in the primary MC system sends the on-demand location information request to the location management server in the partner MC system.

4. The location management server in the partner MC system checks if the MC service user in the partner MC system is authorized to report location information to the primary MC system.

NOTE: Whether the authorization check is a specific check of the requested MC service user or is a general policy check is outside the scope of this procedure.

5. The location management server at partner MC system updates the location information, according to the procedure described in clause 10.9.3.2 of the present document.

6. The location management server in the partner MC system replies with a location information report.

7. The location management server in the primary MC system sends the location information report to the requesting MC service server or the location management client.

##### 10.9.3.10.3 On-demand request of location information procedure with topology hiding

The MC service server or location management client in the primary MC system can request MC service user's location information, which is in the partner MC system, at any time by sending a location information request to the location management server at primary MC system through the interconnected MC gateway servers.

Figure 10.9.3.10.3-1 illustrates the high level procedure of on-demand request of location information with topology hiding.

Pre-conditions:

- The MC service server or the location management client at primary MC system is in possession of the MC service ID or list of MC service IDs of a MC service user at partner MC system, e.g. through the group configuration data described in clause 10.1.5.4 of the present document.



Figure 10.9.3.10.3-1: On-demand request of location information procedure with topology hiding

1. The MC service server or a location management client in the primary MC system requests on-demand location information of MC service user located in the partner MC system.

2. The location management server in the primary MC system checks if the MC service user in the primary MC system is authorized to request on-demand location information of the target MC service user in the partner MC system.

3. The location management server in the primary MC system forwards the on-demand location information request to the MC gateway server in the primary MC system.

4. The MC gateway server in the primary MC system forwards the on-demand location information request to the MC gateway server in the partner MC system.

5. The MC gateway server in the partner MC system forwards the on-demand location information request to the location management server in the partner MC system.

6. The location management server in the partner MC system checks if the MC service user in the partner MC system is authorized to report location information to the primary MC system.

NOTE: Whether the authorization check is a specific check of the requested MC service user or is a general policy check is outside the scope of this procedure.

7. The location management server at partner MC system updates the location information, according to the procedure described in clause 10.9.3.2 of the present document.

8. The location management server in the partner MC system replies with a location information report to the MC gateway server in the partner MC system.

9. The MC gateway server in the partner MC system forwards the location information report to the MC gateway server in the primary MC system.

10. The MC gateway server in the primary MC system forwards the location information report to the location management server in the primary MC system.

11. The location management server in the primary MC system sends the location information report to the requesting MC service server or the location management client.

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