**3GPP TSG-SA WG6 Meeting #46-e S6-212611**

**e-meeting, 15th – 23rd November 2021 (revision of S6-21xxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.434** | **CR** | **0085** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Complete location retrieval in an area | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eSEAL | | | | |  | ***Date:*** | | | 2021-10-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | During the group formation, GMS knows the VAL service ID from the VAL server. But when the GMS interacts with the LMS, it is impossible to identify the VAL service. Hence to avoid including incorrect VAL user or UE (supporting different VAL service than the VAL server) into the group, it is needed to identify the correct VAL service for the group.  In addition, for the location based UE group creation/update, it is unclear how the LMS can retrieve a list of UE identifiers. One possible option is to interact with 3GPP CN to get such information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add VAL service ID support in LMS service for obtain UE list per location and location area monitoring;  Add 3GPP CN interaction for LMS to retrieve the UE ID list. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing information in the procedure for location based group handling; | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.3.2.14, 9.3.12.1, 9.3.12.4, 10.3.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 9.3.2.14 Location area monitoring subscription request

Table 9.3.2.14-1 describes the information flow from the VAL server to the location management server for location area monitoring subscription request. Such information flow is also used by the group management server to request location area monitoring from the location management server.

Table 9.3.2.14-1: Location information monitoring subscription request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Identity | M | Identity of the requesting VAL server, VAL UE or SEAL Server |
| Location Information criteria | M | Location information to be monitored.  It includes the geographic location information or a reference UE along with the application defined proximity range from the reference UE. |
| VAL service ID | O | Identity of the VAL service for which the location information is requested. |
| Time between consecutive reports | O | It indicates the interval time between consecutive reports |
| Immediate Report Indicator | O | Indicates whether an immediate location report is required |
| Triggering events | O | Identifies when the server will send the notification (e.g. distance travelled) |

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

#### 9.3.12.1 Location area monitoring subscribe procedure

Figure 9.3.12.1-1 illustrates the high level procedure of location area monitoring subscription request. The same procedure can be applied for location management client and other SEAL servers that would like to subscribe to the list of UEs moving in or moving out of the specific location area. The subscribe request can be for a reference UE for which the subscriber is authorized to monitor location information.



Figure 9.3.12.1-1: Location area monitoring subscription procedure

1. The VAL server sends a location area monitoring subscription request to the location management server to subscribe to the list of UEs moving in or moving out of the specific location area. In the request message, the VAL server includes the information as specified in Table 9.3.2.14-1. The location information criteria may include the geographic location information where the UEs moving in or moving out to be monitored, or it may include reference UE information where in the UEs moving in or moving out of given application defined proximity range from the reference UE (target UE) to be monitored. The reference UE information may include VAL UE ID, GPSI. The request may include VAL service ID to indicate the VAL service to which the VAL UE or VAL user belongs (to be used for LMS to identify the VAL service supported by the UEs).

2. The location management server shall check if the VAL server is authorized to initiate the location area monitoring subscription request.

3. The location management server replies with a location area monitoring subscription response indicating the subscription status. In the response message, the location management server includes the information as specified in Table 9.3.2.15-1.

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

#### 9.3.12.4 Location area monitoring notification procedure

Figure 9.3.12.4-1 illustrates the high level procedure of location area monitoring notification. The same procedure can be applied for location management client and other SEAL servers who have subscribe to the list of the UEs moving in or moving out of the specific location area.



Figure 9.3.12.4-1: Location are monitoring notification procedure

1. One of the events occurs at the location management server as specified in the subscribe request. The location management server identifies the UEs which are moved into the area or moved out of the area based on their location data and time stamp of the location. The LMS may report the list of all UEs in the given location or UEs moved in and moved out. The monitoring capability for "Number of UEs present in a geographical area" provided by SCEF/NEF may be used by the LMS to retrieve the individual UE identifier within the designated geographical area.

NOTE: The reference UE and the application defined proximity range from the reference UE to be monitored can be expressed in a geographic area (e.g. circular shape) by the LMS after retrieving the location of the reference UE.

2. The location management server sends a location area monitoring notification to the VAL server. In the notification message, the location management server includes the information as specified in Table 9.3.2.16-1.

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

### 10.3.7 Location-based group creation

Figure 10.3.7-1 below illustrates the location-based group creation.

Pre-conditions:

1. The group management client, group management server, VAL server, location management server and the VAL group members belong to the same VAL system.

2. The authorized VAL user/UE/administrator is not aware of the users' or UE identities which will be combined to form the VAL group.



Figure 10.3.7-1: Location-based group creation

1. The group management client or the VAL server requests location-based group create operation to the group management server. The location criteria for determining the identities of the users or UEs to be combined shall be included in this message.

2. The group management server requests the location management server for obtaining the users or UEs corresponding to the location information. The request may include VAL service ID to indicate the VAL service to which the VAL UE or VAL user belongs.

3. The location management server composes the list of users or UEs within the requested location. The location management server considers the requested VAL service (if received) and the identified VAL service supported by the user or UE to compose the list. The location management server may utilize the monitoring capability for "Number of UEs present in a geographical area" provided by SCEF/NEF to retrieve the individual UE identifier within the designated geographical area.

4. The group management server receives the composed list of users or UEs from the location management server.

5. During the group creation, the group management server creates and stores the information of the location-based group. The group management server performs the check on the policies e.g. maximum limit of the total number of VAL group members for the VAL group(s). If an external group identifier, identifying the member UEs of the VAL group at the 3GPP core network is available, then the external group ID is stored in the newly created VAL group’s configuration information.

NOTE: The exact policies are out of scope of the present document.

6. The group management server provides a location-based group creation response to the group management client or the VAL server.

\* \* \* End of Changes \* \* \* \*