**3GPP TSG-SA WG6 Meeting #52-bis-e S6-230398**

**e-meeting, 11th – 20th January 2023 (revision of S6-230061)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.554** | **CR** | **0097** | **rev** | **1** | **Current version:** | **18.2.0** |  |
|  | | | | | | | | |
| *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:*** | Add the element of Registration expiration time | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | SA6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMARCH\_Ph2 | | | | |  | ***Date:*** | | | 2023-01-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This CR is proposed to clarify the registration expiration time in the Registration procedure, it’s unclear whether the registration needs to be updated in our specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify MSGin5G Registration expiration time. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | There is no expiration time in the registration process, UEs are always online after one registration. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***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 \* \* \*

8.2.1 MSGin5G UE Registration

The signalling flow for MSGin5G UE registration is illustrated in figure 8.2.1-1. The procedure assumes that the MSGin5G UE is responsible for initiating registration to the MSGin5G Server in order to establish association with the MSGin5G Server to receive MSGin5G Services.

Pre-conditions:

1. The MSGin5G UE has connected to the serving network successfully.

2. The MSGin5G UE has successfully completed the Configuration procedure; alternatively, a UE Service ID and the MSGin5G Server address have been pre-configured on the MSGin5G UE.

3. Both the MSGin5G UE and MSGin5G Server have been configured with the necessary credentials to enable authenticating one another.

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**Figure 8.2.1-1: MSGin5G Client registration**

1. The MSGin5G UE sends an MSGin5G UE registration request to the MSGin5G Server. The request includes the UE Service ID and MSGin5G Client Profile information as detailed in Table 8.2.1-1.

**Table 8.2.1-1: MSGin5G UE registration request**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| UE Service ID | M | UE service identifier assigned to the requesting MSGin5G UE. |
| MSGin5G Client Profile | O | Set of parameters describing the MSGin5G Client |
| >MSGin5G Client Triggering Information | O | UE Identifier (i.e., MSISDN, external ID), port number(s) and associated protocol (e.g., SMS, NIDD, etc.) for device triggering. The MSGin5G Server uses the information in step 5 of clause 8.8.3. See Table 8.2.1-2. |
| >MSGin5G Client Communication Availability | O | Communication availability information for the MSGin5G Client to receive MSGin5G messages. This IE informs the MSGin5G Server if the client has a specific application-level schedule/periodicity to its MSGin5G communications, which may be used in conjunction with UE reachability monitoring to determine whether and when MSGin5G communications are attempted. See Table 8.2.1-3. |
| > MSGin5G Client Supported Maximum MSGin5G segment size | O | The Maximum MSGin5G segment size can be used by the MSGin5G server to deliver message to the client served by it in its MSGin5G service domain. The MSGin5G message sent to the MSGin5G Client should be segmented by the MSGin5G Server serves the receiver if the message size is bigger than the MSGin5G Client Supported Maximum MSGin5G segment size.  The value of this IE is decided by the MSGin5G Client, and is depended on the MSGin5G Client capabilities, e.g. supported transport, computing capability or application processing time limitation.  If this IE is not included, the MSGin5G Server shall use the pre-configured global value within the MSGin5G service domain. |
| Requested expiration time | O | Requested expiration time for the registration. |

**Table 8.2.1-2: MSGin5G Client Triggering Information**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| MSGin5G UE ID | M | Identity of the UE hosting the MSGin5G Client (e.g., the External Identifier defined in TS 23.682 [8], or an MSISDN) |
| MSGin5G Client Ports | M | List of port numbers that the MSGin5G Client listens on for device triggers from the MSGin5G Server. Also included with each port number is an associated protocol (e.g., SMS, NIDD, etc.). |

**Table 8.2.1-3: MSGin5G Client and Non-MSGin5G UE Communication Availability**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| Scheduled communication time | M | Time when the UE becomes available for communication. |
| Communication duration time | M | Duration time of periodic communication. |
| Periodic communication indicator | O | Identifies whether the client communicates periodically or not, e.g., on demand. |
| Periodic communication interval | O | Interval Time of periodic communication. This IE is mandatory if the Periodic communication indicator indicates periodic communications. |
| Data size indication | O | Indicates the expected data size to be exchanged during the communication duration. |
| Store and forward option | O | Indicates opting out of store and forward services for incoming MSGin5G requests. |

2. Upon receiving the request, the MSGin5G Server initiates authentication procedures with the MSGin5G Client and authorizes the MSGin5G Client.

NOTE: The authentication procedures in step 2 are built on top of the transport layer mechanism specified in Annex Y.2 of 3GPP TS 33.501 [16].

3. The MSGin5G Server sends an MSGin5G UE registration response to the MSGin5G UE. The response includes the information elements as detailed in Table 8.2.1-4. The registration expiration time is returned either as provided by the MSGin5G client in the registration request or determined by the MSGin5G Server based on local policy. If the registration is successful, the MSGin5G Server stores the UE Service ID and associated MSGin5G Client Profile information.

**Table 8.2.1-4: MSGin5G UE registration response**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| UE Service ID | M | UE service identifier assigned to the requesting MSGin5G UE. |
| Registration result | M | Indication if the registration is success or failure |
| Registration expiration time | M | Indicates the expiration time of the registration. |
| Failure Cause | O | The reason for failure |

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