**3GPP TSG-SA WG6 Meeting #42-bis-e S6-210813**

**e-meeting, 12th – 20th April 2021 (revision of S6-21xxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | evaluation of solution 28 and remove EN in architecture | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Mobile | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5GMARCH | | | | |  | ***Date:*** | | | 2021-04-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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:*** | | Whether Application Client ID will be used while using Message Gateway UE is not decided yet. More evaluation of solution 28 is needed to be added to analyze whether Application Client ID is needed. Based on the evaluation, Application ID is enough for the Message Gateway scenario. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add evaluation of solution 28 and remove the EN addressing Application Client ID. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Whether Application Client ID will be used in MSGin5G Service is not decided. There will be not a clear view for the normative phase. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.28.2, 8.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change 1\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 6.28.2 Solution evaluation

Typical IoT deployment consists of MSGin5G UE which are of heterogeneous nature including light weight constrained devices (e.g. sensors, actuators) and unconstrained devices with advanced capabilities (e.g. washing machine, micro-ovens). When constrained devices do not have capability to communicate with MSGin5G Server, they rely on another MSGin5G UE in the proximity acting either as a relay UE or a gateway UE for consuiming MSGin5G Service. This solution enables constrained devices to be part of the MSGin5G Service.

When the MSGin5G UE acts as a gateway for the constrained devices (i.e. MSGin5G Client is not supported by the constrained devices), the MSGin5G Client in the MSGin5G UE interacts with multiple Application Clients from the MSGin5G Service point of view. If the Application Clients all communicate with a same logical Application Server (i.e. a same specific user service), from the Application’s point of view, if the Application Server wants to communicate with a specific Application Client, it has to include the identities of Application Clients in the information sent to the specific Application Client within the Application domain. From the MSGin5G Service’s point of view, the identities of Application Clients can be seen as Application ID.

E.g. If Application Server wants to send message to Application Client A, it includes the identity of Application Client A (i.e. AC ID A) in the message. The MSGin5G Server includes the AC ID A in the Application ID IE in the message sent to MSGin5G UE. The MSGin5G UE delivers the message to Application Client A based on the Application ID, i.e. AC ID A.

Therefore, in the Message Gateway scenario, Application ID is enough for the message delivery. Application Client ID is not mandatory.

### 

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Change 2\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 8.2 Application architecture

Figure 8.2-1 shows the application architecture of the MSGin5G Service. The MSGin5G Service shall fulfil the service requirements which are enumerated in 3GPP TS 22.262 [2].

NOTE 1: "MSGin5G" in this document is referred to the new defined transport for the MSGin5G service. The service name in this document uses the "MSGin5G Service" term in 3GPP TS 22.262 [2].



Figure 8.2-1: Application Architecture of the MSGin5G Service

The MSGin5G client(s) , Legacy-3GPP Message Gateway and Non-3GPP Message Gateway may interact with SEAL clients over the SEAL-C reference point specified for each SEAL service. The MSGin5G server(s) interacts with SEAL servers over the SEAL-S reference point specified for each SEAL service. The interaction between a SEAL client and the corresponding SEAL server is supported by SEAL-UU reference point specified for each SEAL service as specified in 3GPP TS 23.434 [9].

NOTE2: For simplicity, the SEAL clients interact with Legacy 3GPP Message Gateway and Non-3GPP Message Gateway, and the SEAL-UU interface between Legacy 3GPP Message Gateway and Non-3GPP Message Gateway and SEAL servers are not shown in Figure 8.2-1.

The MSGinUE-1 may be constrained devices and unconstrained devices with advanced capabilities, and can communicate with MSGin5G server over MSGin5G-1 reference point. The MSGin5G UE-2 is constrained device which do not have enough capability to communicate with MSGin5G Server. If allowed by configuration, the MSGin5G UE-1 may act as a UE Message Gateway to MSGin5G UE-2.

NOTE 3: In certain deployment option, a Group management function based on SEAL Group Management Server specified in 3GPP TS 23.434 [9], and a MSGin5G configuration function based on Configuration Management aspects from SEAL configuration management Server specified in 3GPP TS 23.434 [9], can be implemented in the MSGin5G Server. A configuration management client specified in 3GPP TS 23.434 [9] can be implemented in the MSGin5G Client, Legacy-3GPP Message Gateway and Non-3GPP Message Gateway. The implementation of such deployment option is out of this specification.

NOTE 4: In certain deployment option, the UE-2 may not contain MSGin5G Client. In such scenario, the application client in UE-2 will interact with MSGin5G Client in UE-1 to send messages.

NOTE 5: When both UE-1 and UE-2 support MSGin5G client, MSGin5G client in UE-1 acts as a relay for the MSGin5G client in UE-2 to receive MSGin5G service. When UE-2 does not support MSGin5G client and only UE-1 supports MSGin5G client, MSGin5G client in UE-1 acts as a gateway for the Application client in UE-2 to receive MSGin5G service.

Editor's note: Specifying details of MSGin5G Client interaction towards Application Client is FFS.

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