**3GPP TSG-CT WG1 Meeting #141eC1-23xxxx**

**Online 17– 21 April 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **1** | **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:***  | Multi-USS management procedures |
|  |  |
| ***Source to WG:*** | InterDigital Inc. |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | UASAPP\_Ph2 |  | ***Date:*** | 2023-04-10 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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 canbe 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)* |
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| ***Reason for change:*** | Procedures for Multi-USS configuration is missing. |
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| ***Summary of change:*** | Procedures for Multi-USS configuration between the UAS application specific server, the UAE server and the UAE client are added. |
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| ***Consequences if not approved:*** | Procedures for Multi-USS configuration will remain missing. |
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| ***Clauses affected:*** | 6.7 (new), 6.7.1 (new), 6.7.1.1 (new), 6.7.2 (new), 6.7.2.1 (new) |
|  |  |
|  | **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 \*\*\*\*\*

# 4 General description

The UE can contain a UAE client (UAE-C). The UAE-C and the UAE server (UAE-S) are located in the UAE layer. The UAE layer can offer the UAE capabilities to the UAS application specific layer. The UAE layer can utilize SEAL services provided by SEAL, which may include location management, group management, configuration management, identity management, key management and network resource management (see 3GPP TS 23.434 [4]).

The UAE-C communicates with the UAE-S over the U1-AE interface (see 3GPP TS 23.255 [2]). Furthermore, the UAE-C of a UE can communicate with the UAE-C of another UE over unicast Uu interface (including LTE-Uu or NG-RAN-Uu) (see 3GPP TS 23.255 [2]). Both the UAE-C and the UAE-S can act as an HTTP client or an HTTP server (see IETF RFC 7231 [5]). The HTTP protocol interactions are described in detail in clause 6.

By means of using the U1-AE interface:

a) Communications between UAVs within a geographical area using unicast Uu can be provided as defined by clause 6.2;

b) C2 communication mode selection and switching can be provided as defined by clause 6.3;

c) UAS UE registration can be provided as defined by clause 6.4;

d) UAS UE de-registration can be provided as defined by clause 6.5; and

e) UAS UE registration update can be provided as defined by clause 6.6;

f) Change of USS during flight can be provided as defined by clause 6.7; and

g) DAA support can be provided as defined by clause 6.8.

\*\*\*\*\* Next change \*\*\*\*\*

## 6.7 Change of USS during flight

### 6.7.1 Client procedure

#### 6.7.1.1 Management of multi-USS configuration procedure

Upon receiving an HTTP POST request containing:

a) a Content-Type header field set to "application/vnd.3gpp.uae-info+xml"; and

b) an application/vnd.3gpp.uae-info+xml MIME body with a <multi-USS-configuration-info> element,

the UAE-C:

a) shall store the received configuration information;

b) shall generate an HTTP 200 (OK) response according to IETF RFC 7231 [5]. In the HTTP 200 (OK) response message, the UAE-C:

1) shall include a Content-Type header field set to "application/vnd.3gpp.uae-info+xml"; and

2) shall include an application/vnd.3gpp.uae-info+xml MIME body and in the <UAE-info> root element:

i) shall include a <multi-USS configuration-info> element with a <result> child element set to the value "success" or "failure" indicating positive or negative result of reception and storing of the multi-USS configuration parameters; and

c) shall send the HTTP 200 (OK) response towards the UAE-S.

### 6.7.2 Server procedure

#### 6.7.2.1 Management of multi-USS configuration procedure

Upon receiving an application request from UAS application specific server (which can be the USS/UTM) to manage the multi-USS configuration for a UAS, the UAE-S shall generate an HTTP POST request message according to IETF RFC 7231 [5]. In the HTTP POST request message, the UAE-S:

a) shall include a Request-URI set to the URI corresponding to the identity of the UAE-C;

b) shall include a Content-Type header field set to "application/vnd.3gpp.uae-info+xml";

c) shall include an application/vnd.3gpp.uae-info+xml MIME body with a <multi-USS-configuration-info> element in the <UAE-info> root element which:

1) shall include a <UAS-id> element set to the identification of the UAS for which the multi-USS configuration request applies; and

2) may include a < Multi-USS-policy-management-configuration> element that contains the Multi-USS policy management configuration information to be configured at the UAS which:

i) shall include an <Allowed-USS> element indicating the USS that can be the target of a switch;

ii) shall include a <Serving-USS-information> element set to the serving USS identifier;

iii) shall include an <Additional-information-for-change-of-USS> element providing information about the serving USS, related with the switch to a particular target USS;

iv) shall include an <Area-for-change-of-USS> element indicating the area where the Multi-USS management request applies; and

d) shall send the HTTP POST request message towards the UAE-C.

\*\*\*\*\* End of changes \*\*\*\*\*