**3GPP TSG-CT WG1 Meeting #133-eC1-21XXXX**

**E-meeting, 11-19 November 2021**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3641** | **rev** | **3** | **Current version:** | **17.4.1** |  |
|  | | | | | | | | |
| *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:*** | C2 aviation payload | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Lenovo, Motorola Mobility | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ID\_UAS | | | | |  | ***Date:*** | | | 2021-11-11 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 23.256 requires a C2 authorization payload IE with a number of parameters be created. This IE is used for C2 authroization of the UAV by the USS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Definition of C2 authorization payload IE is defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | C2 authorization of the UAV cannot be performed by the USS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.11.2.XX(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:*** | | This is an agreed CR from CT1#132-e, however, the CR needs to be modified accordingly:  - Removal of changes in 9.11.2.10 and  - Aviation 🡪 authorization in all related wording for C2. | | | | | | | | |

>>>>>>>>>> Next change <<<<<<<<<<

#### 9.11.2.XX C2 authorization payload

The purpose of the C2 authorization payload information element is to exchange the information regarding C2 pairing authorization and flight authorization, between the UAV and the USS.

The C2 authorization payload information element is coded as shown in figure 9.11.2.XX.1, figure 9.11.2.XX.2, figure 9.11.2.XX.3 and table 9.11.2.XX.1.

The C2 authorization payload is a type 6 information element with a minimum length of 6 octets and a maximum length of 65538 octets.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  | |
| C2 authorization payload IEI | | | | | | | | | | octet 1 |
| Length of C2 authorization payload contents | | | | | | | | | | octet 2 |
|  | | | | | | | | | | octet 3 |
|  | | | | | | | | | | octet 4 |
| C2 authorization payload contents | | | | | | | | | |  |
|  | | | | | | | | | | octet n |

Figure 9.11.2.XX.1: C2 authorization payload information element

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |  | |
| C2 authorization payload parameter 1 | | | | | | | | | octet 4  octet x1 | |
| C2 authorization payload parameter 2 | | | | | | | | | octet x1+1\*  octet x2\* | |
| …… | | | | | | | | | … | |
| C2 authorization payload parameter n | | | | | | | | | octet xi +1\*  octet n\* | |

Figure 9.11.2.XX.2: C2 authorization payload contents

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |  | |
| Type of C2 authorization payload parameter | | | | | | | | | octet xi +1 | |
| Length of C2 authorization payload parameter | | | | | | | | | octet xi +2 | |
|  | | | | | | | | | octet xi +3 | |
| Value of C2 authorization payload parameter | | | | | | | | | octet xi +4  octet n | |

Figure 9.11.2.XX.3: C2 authorization payload parameter is a type 4 information element

Table 9.11.2.XX.1: C2 authorization payload information element

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C2 authorization payload (octet 4 to octet n); max value of 65535 octets | | | | | | | | | |
|  | | | | | | | | | |
| Type of C2 authorization payload parameter (octet xi +1): | | | | | | | | | |
| Bits | | | | | | | | | |
| **8** | **7** | **6** | **5** | **4** | **3** | **2** | **1** |  |  |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  | UAV-C pairing information |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |  | Flight authorization information |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |  | C2 authorization result |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |  | C2 session security information |
| All other values are spare. | | | | | | | | | |
| The receiving entity shall ignore C2 authorization payload parameter with type of C2 authorization payload parameter field containing an unknown IEI. | | | | | | | | | |
|  | | | | | | | | | |
| If the type of C2 authorization payload parameter indicates UAV-C pairing information, then the field for the value of C2 authorization payload parameter contains identification information of UAV-C to pair. The format of the UAV-C pairing information is out of the scope of 3GPP. | | | | | | | | | |
|  | | | | | | | | | |
| If the type C2 authorization payload parameter indicates flight authorization information, then the field for the value of C2 authorization payload parameter contains UAV flight authorization information. The format of the flight authorization information is out of the scope of 3GPP. | | | | | | | | | |
|  | | | | | | | | | |
| If the type of the C2 authorization payload parameter indicates C2 authorization result, then the field of the value of C2 authorization payload parameter contains: | | | | | | | | | |
| Bits | | | | | | | | | |
| **8** | **7** | **6** | **5** | **4** | **3** | **2** | **1** |  |  |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | C2 authorization failed |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  | C2 authorization succeeded |
| All other values are spare. | | | | | | | | | |
| The UAV shall consider any other value for C2 authorization result field as a failure for C2 authorization. | | | | | | | | | |
|  | | | | | | | | | |
| If the type of the C2 authorization payload parameter indicates C2 session security information, then the field of the value of C2 authorization payload parameter contains information for secure communications with the USS, The format of the C2 session security information is out of the scope of 3GPP. | | | | | | | | | |
|  | | | | | | | | | |

>>>>>>>>>> End of changes <<<<<<<<<<