**3GPP TSG-CT WG1 Meeting #133e-bisC1-220267**

**E-meeting, 17-21 January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3895** | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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:*** | Spatial validity condition coding | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eEDGE\_5GC | | | | |  | ***Date:*** | | | 2022-01-10 |
|  |  | | | |  | |  | | |  |
| ***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 24.008 subclause 10.5.6.3.1 has EN for spatial validity condition coding in PCO.  Editor’s note: The format of Spatial validity condition and whether the spatial validity conditions are per ECS server or per ECS server type is FFS  In order to achieve flexible coding of the ECS address with spatial validity condition, it is proposed to define the container ‘ECS address with spatial validity condition’ in TS 24.501. The spatial validity condition is optional, so if it is not needed, the existing ECS server address container is used. If the spatial validitiy condition is available then the container for ECS server address with spatial validity condition is used.  This parameter is defined in TS 24.501 because it is for 5GS usage, and CR3298 agaist TS 24.008 proposes to add correspodning PCO parameters. | | | | | | | | |
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| ***Summary of change:*** | | Define ECS address with spatial validity condition parameters. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 2 requirements for ECS address with spatial validity condition cannot be implemented | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.11.4.xx (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 24.008 CR 3298 | | |
| ***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 \*\*\*

##### 9.11.4.xx ECS address

The purpose of the ECS address parameter container contents is to indicate the ECS address (either IPv4 address, IPv6 address, or FQDN) with spatial validity condition.

The ECS address parameter container contents are coded as shown in Figure 9.11.4.xx-1 , Figure 9.11.4.xx-2, Table 9.11.4.xx-1, and Table 9.11.4.xx-2.

The ECS address container contents is a type 6 information element with minimum length of 11 octets and a maximum length of 65538 octets.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | | 3 | 2 | 1 |  |
| ECS address with spatial validity condition parameter IEI | | | | | | | | | octet 1 |
| Length of ECS address with spatial validity condition parameter contents | | | | | | | | | octet 2  octet 3 |
| Type of ECS address | | | | | Type of spatial validity condition | | | | octet 4 |
| ECS address | | | | | | | | | octet 5  octet a |
| Spatial validity condition parameters | | | | | | | | | octet (a+1)\*  octet n\* |

Figure 9.11.4.xx-1: ECS address with spatial validity condition parameter information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of spatial validity condition parameters | | | | | | | | octet (a+1)\*  octet (a+2)\* |
| Spatial validity information 1 | | | | | | | | octet b\*  octet c\* |
| Spatial validity information 2 | | | | | | | | octet (c+1)\*  octet d\* |
| … | | | | | | | | octet (d+1)\*  octet e\* |
| Spatial validity information N | | | | | | | | octet (e+1)\*  octet n\* |

Figure 9.11.4.xx-2: Spatial validity condition parameters

Table 9.11.4.xx-1: ECS address with spatial validity condition parameter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of ECS address (octet 4, bit 1 to 4) | | | | |
| Bits | | | | |
| 4 | 3 | 2 | 1 |  |
| 0 | 0 | 0 | 0 | IPv4 |
| 0 | 0 | 0 | 1 | IPv6 |
| 0 | 0 | 1 | 0 | FQDN |
|  | | | | |
| All other values are reserved. | | | | |
|  | | | | |
| Type of spatial validity condition (octet 4, bit 5 to 8) | | | | |
| Bits | | | | |
| 8 | 7 | 6 | 5 |  |
| 0  0 | 0  0 | 0  0 | 0  1 | No spatial validity condition  Geographical Service Area |
| 0 | 0 | 1 | 0 | Tracking Area |
| 0 | 0 | 1 | 1 | Country-wide |
|  | | | | |
| All other values are reserved. | | | | |
|  | | | | |
| If the type of ECS address indicates IPv4, then the ECS address field contains an IPv4 address in octet 5 to octet 8. | | | | |
|  | | | | |
| If the type of ECS address indicates IPv6, then the ECS address field contains an IPv6 address in octet 5 to octet 20 and is encoded according to IETF RFC 4291 [x]. | | | | |
|  | | | | |
| If the type of ECS address indicates FQDN, then the ECS address field contains an FQDN value in octet 5 to octet a encoded as defined in subclause 28.3.2.2.2 in 3GPP TS 23.003 [4]. | | | | |
|  | | | | |

Table 9.11.4.xx-2: Spatial validity condition parameter

|  |
| --- |
| If the type of spatial validity condition of the ECS address parameter indicates No spatial validity condition, then the spatial validity condition information field is empty.  If the type of spatial validity condition of the ECS address parameter indicates Geographical Service Area, then the spatial validity condition information field contains a Geographical Service Area as defined in TS 23.558 [xx]. |
|  |
| If the type of spatial validity condition of the ECS address parameter indicates Tracking Area, then the spatial validity condition information field contains a TAI as defined in TS 23.003 [4]). |
|  |
| If the type of spatial validity condition of the ECS address parameter indicates country-wide, then the spatial validity condition information field contains an MCC as defined in TS 23.003 [4]. |
|  |

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