**3GPP TSG-CT WG4 Meeting #111-eC4-224xxx**

**E-Meeting, 18th – 26th August 2022** *Revision of C4-224090*

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.244** | **CR** | **0654** | **rev** | **1** | **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 |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Corrections to FQ-CSID node types | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2022-08-02 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Table 8.2.43-2 "Node Type" does not specify values for SMF and UPF, which needs to be corrected. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | SMF and UPF are added to Table 8.2.43-2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | SMF and UPF are unable to use partial failure feature. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.2.43. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Rev1: Instead of specifying new values for SMF and UPF, SMF and UPF are added to PGW-C and PGW-U/SGW-U, respectively. | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 8.2.43 Fully qualified PDN Connection Set Identifier (FQ-CSID)

A fully qualified PDN Connection Set Identifier (FQ-CSID) identifies a set of PDN connections belonging to an arbitrary number of UEs on a SGW-C, PGW-C, SGW-U and PGW-U, or a set of PDU sessions belonging to an arbitrary number of UEs on a SMF or UPF. The FQ-CSID is supported on the Sxa, Sxb and N4 interfaces.

The size of CSID is two octets. The FQ-CSID is coded as follows:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Bits | | | | | | | |  |
|  | Octets | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
|  | 1 to 2 | Type = 65 (decimal) | | | | | | | |  |
|  | 3 to 4 | Length = n | | | | | | | |  |
|  | 5 | FQ-CSID Node-ID Type | | | | Number of CSIDs= m | | | |  |
|  | 6 to p | Node-Address | | | | | | | |  |
|  | (p+1) to (p+2) | First PDN Connection Set Identifier (CSID) | | | | | | | |  |
|  | (p+3) to (p+4) | Second PDN Connection Set Identifier (CSID) | | | | | | | |  |
|  | ... | ... | | | | | | | |  |
|  | q to q+1 | m-th PDN Connection Set Identifier (CSID) | | | | | | | |  |
|  | q+2 | Spare | | | | Node Type | | | |  |
|  | (q+3) to (n+4) | These octet(s) is/are present only if explicitly specified | | | | | | | |  |

Figure 8.2.43-1: FQ-CSID

Where FQ-CSID Node-ID Type values are:

0 indicates that Node-Address is a global unicast IPv4 address and p = 9.

1 indicates that Node-Address is a global unicast IPv6 address and p = 21.

2 indicates that Node-Address is a 4 octets long field with a 32 bit value stored in network order, and p= 9. The coding of the field is specified below:

- Most significant 20 bits are the binary encoded value of (MCC \* 1000 + MNC).

- Least significant 12 bits is a 12 bit integer assigned by an operator to an MME, SGW-C, SGW-U, PGW-C, PGW-U, ePDG, TWAN , SMF or UPF.

Other values of Node-Address Type are reserved.

Values of Number of CSID greater than 1 shall only be employed in the PFCP Session Deletion Request. The value 0 shall be used in a PFCP Session Modification Request, with the FQ-CSID Node-ID Type and Node-Address fields set to all zeros, and with the Node Type indicating one node type, to remove an FQ-CSID previously provisioned for the PFCP session for the related node type.

NOTE: The CP function can remove all the FQ-CSIDs for all node types provisioned in the UP function for a given PFCP session by sending a PFCP Session Modification Request with one FQ-CSID IE with a null length.

The node that creates the FQ-CSID (i.e. SGW-C for SGW-C FQ-CSID, PGW-C or SMF for PGW-C/SMF FQ‑CSID and PGW-U or SGW-U or UPF for PGW-U/SGW-U/UPF FQ‑CSID) needs to ensure that the Node-ID is globally unique and the CSID value is unique within that node.

The Node Type field in bits 1 to 4 of octet (q+2) shall be encoded as defined in Table 8.2.43-2. Bits 5 to 8 of octet (q+2) shall be set to zero by the sender and ignored by the receiver.

Table 8.2.43-2: Node Type

|  |  |
| --- | --- |
| Node Type | Value (Decimal) |
| MME | 0 |
| SGW-C | 1 |
| PGW-C/SMF | 2 |
| ePDG | 3 |
| TWAN | 4 |
| PGW-U/SGW-U/UPF | 5 |
| Spare, for future use. | 6-15 |

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