3GPP TSG SA WG5 Meeting 136-e TDoc S5-212457

electronic meeting, online, 1 - 9 March 2021

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

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|  | | | | | | | | | | |
| ***Title:*** | Correction on UE MM Core Network Capability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_Ph1\_AMFCH | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | Per TS 23.501 clause 5.4.4a, the UE MM Core network capability is split between S1 UE network capability and UE 5GMM Core Network Capability. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Replace UE MM Core network capability IE by UE 5GMM Core network capability IE | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing UE 5GMM Core network capability | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.1.2, 6.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **First change** |

#### 6.2.1.2 Definition of Registration charging information

Specific charging information used for 5G registration charging is provided within the Registration Charging Information.

The detailed structure of the Registration Charging Information can be found in table 6.2.1.2.1.

Table 6.2.1.2.1: Structure of Registration Charging Information

|  |  |  |
| --- | --- | --- |
| Information Element | Category | Description |
| Registration message type | M | This field holds the message type received by the AMF associated to registration: registration (initial, mobility, periodic, emergency), deregistration. |
| User Information | OM | Group of user information. |
| User Identifier | OC | This field contains the identification of the user (i.e. GPSI). |
| User Equipment Info | OC | This field holds the identification of the terminal (i.e. PEI, MAC Address)  It may be used for identifying the user and shall be present in case Subscriber Identifier is not present. |
| unauthenticatedFlag | OC | This field indicates the served SUPI is not authenticated. |
| Roamer In Out | OC | This field holds an indication if the roamer is in-bound or out-bound. This field is present only if UE is identified as a roamer. |
| UE 5GMM Core Network Capability | OC | This field holds the UE 5GMM Core Network Capability included in UE MM Core network capabilities, as specified in clause 5.4.4a TS 23.501 [200] |
| MICO Mode Indication | OC | This field indicates whether the MICO Mode is applicable or not. |
| SMS Supported Indication | OC | This field indicates whether SMS is supported or not. |
| RAT Type | OC | This field holds the Radio Access Technology (RAT) currently serving the UE. |
| TAI List | OC | This field holds a set of tracking areas composing the Registration Area. |
| User Location Info | OC | This field indicates details of where the UE is currently located (access-specific user location information). |
| User Location Time | OC | The NTP time at which the UE was last known to be in the location. |
| PSCell Information | OC | This field holds the PSCell: Primary SCG (Secondary Cell Group) Cell |
| UE Time Zone | OC | This field holds the Time Zone of where the UE is located, if available where the UE currently resides. |
| Mobility Restrictions | OC | This field holds the Mobility Restrictions applicable to the UE: RAT restriction, Forbidden area, Service area restrictions and Core Network type restriction. |
| Requested NSSAI | OC | This field holds the requested NSSAI. |
| Allowed NSSAI | OC | This field holds the allowed NSSAI consisting of one or more S-NSSAIs for serving PLMN in the present Registration Area. |
| Rejected NSSAI | OC | This field holds the rejected NSSAI. |
| NSSAI mapping list | OC | This field holds mapping of each S-NSSAI of the Allowed NSSAI to the S-NSSAIs of the Subscribed S-NSSAIs. |
| AMF UE NGAP ID | OM | This fields holds the UE association over the N2 interface within the AMF. |
| RAN UE NGAP ID | OM | This fields holds the RAN UE NGAP ID over N2 interface. |
| RAN Node Id | OM | This fields holds the Global RAN Node ID. |

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| **Next change** |

### 6.2.3 Detailed message format for converged charging

The following clause specifies per Operation Type the charging data that are sent by AMF for 5G connection and mobility converged charging.

The Operation Types are listed in the following order: I (Initial)/T (Termination)/E (Event). Therefore, when all Operation Types are possible it is marked as ITE. If only some Operation Types are allowed for a node, only the appropriate letters are used (i.e. IT or E) as indicated in the table heading. The omission of an Operation Type for a particular field is marked with "-" (i.e. I-E). Also, when an entire field is not allowed in a node the entire cell is marked as "-".

Table 6.2.3.1 defines the basic structure of the supported fields in the *Charging Data Request* message for AMF converged charging.

Table 6.2.3.1: Supported fields in Charging Data Request message

| Information Element | Functionality of AMF | Reg. | N2 cnt | Loc. Report. |
| --- | --- | --- | --- | --- |
| Supported Operation Types | I/T/E | E | E |
| Session Identifier | | ITE | E | E |
| Subscriber Identifier | | ITE | E | E |
| NF Consumer Identification | | ITE | E | E |
| Invocation Timestamp | | ITE | E | E |
| Invocation Sequence Number | | ITE | E | E |
| Retransmission Indicator | | - | - | - |
| One-time Event | | --E | E | E |
| One-time Event Type | | --E | E | E |
| Notify URI | | - | - | - |
| Triggers | | ITE | - | - |
| Multiple Unit Usage | | ITE | - | - |
| AMF Identifier | | ITE | E | E |
| AMF Charging Profile | | I-E | E | E |
| Registration Charging Information | | | | |
| Registration Message type | | ITE | - | - |
| User Information | | ITE | - | - |
| UE 5GMM Core Network Capability | | ITE | - | - |
| MICO Mode Indication | | ITE | - | - |
| SMS Supported Indication | | ITE | - | - |
| Access Type | | ITE | - | - |
| RAT Type | | ITE | - | - |
| TAI List | | ITE | - | - |
| User Location Info | | ITE | - | - |
| User Location Time | | ITE | - | - |
| PSCell Information | | ITE | - | - |
| UE Time Zone | | ITE | - | - |
| Mobility Restrictions | | ITE | - | - |
| Requested NSSAI | | ITE | - | - |
| Allowed NSSAI | | ITE | - | - |
| Rejected NSSAI | | ITE | - | - |
| NSSAI mapping list | | ITE | - | - |
| AMF UE NGAP ID | | ITE | - | - |
| RAN UE NGAP ID | | ITE | - | - |
| RAN Node Id | | ITE | - | - |
| N2 Connection Charging Information | | | | |
| N2 Connection Message type | | - | E | - |
| User Information | | - | E | - |
| User Location Info | | - | E | - |
| User Location Time | | - | E | - |
| PSCell Information | | - | E | - |
| UE Time Zone | | - | E | - |
| RAT Type | | - | E | - |
| AMF UE NGAP ID | | - | E | - |
| RAN UE NGAP ID | | - | E | - |
| RAN Node Id | | - | E | - |
| Mobility Restrictions | | - | E | - |
| Allowed NSSAI | | - | E | - |
| RRC Establishment Cause | | - | E | - |
| Location Reporting Charging information | | | | |
| Location reporting Message type | | - | - | E |
| User Information | | - | - | E |
| User Location Info | | - | - | E |
| User Location Time | | - | - | E |
| PSCell Information | | - | - | E |
| UE Time Zone | | - | - | E |
| Presence Reporting Area Information | | - | - | E |
| RAT Type | | - | - | E |

Table 6.2.3.2 defines the basic structure of the supported fields in the *Charging Data Response* message for AMF converged charging.

Table 6.2.3.2: Supported fields in Charging Data Response message

| Information Element | Functionality of AMF | Reg. | N2 cnt | Loc. Report. |
| --- | --- | --- | --- | --- |
| Supported Operation Types | ITE | E | E |
| Session Identifier | | ITE | E | E |
| Invocation Timestamp | | ITE | E | E |
| Invocation Result | | ITE | E | E |
| Invocation Sequence Number | | ITE | E | E |
| Session Failover | | I-- | - | - |
| Triggers | | - | E | E |
| Multiple Unit information | | - | - | - |
| AMF Charging Profile | | I-E | E | E |

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| **End of changes** |